

Reteach*Algebra: Number Patterns*

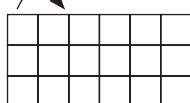
When looking for a pattern, see how the next number changes.

+ 2



2, 4, 6, 8. What is the pattern? Add 2.

+ 3



3, 6, 9, 12, 15. What is the pattern? Add 3.

Identify the pattern. Then find the missing numbers.

1. 5, _____, 15, _____, 25, _____
2. 10, 20, _____, 40, _____, _____
3. 100, 90, _____, 70, _____, _____
4. 322, _____, _____, 325, _____
5. 25, 125, _____, 325, _____, _____
6. Each student in the class has a hat collection. If the pattern continues, how many hats will Erik and Alissa have?

Thomas    

Kristen      

Ryan        

Collette          

Erik _____

Alissa _____

Reteach*Problem-Solving Skill: The Four Step Plan***The Four-Step Plan**

Kayla's game piece is on box 40 of a gameboard. She moves it ahead 20 boxes two times. Where is her game piece now?

Step 1 Understand	What facts do you know? What do you know? Kayla starts on _____. She moves her game piece ahead _____ boxes _____ times. What do you need to find?
Step 2 Plan	To find out where Kayla's game piece is, start with 40 and add 20 two times.
Step 3 Solve	Use your plan to solve the problem. Start at 40. Add 20. $40 + 20 = 60$ Add 20. $60 + 20 = 80$ Kayla's game piece is on box _____.
Step 4 Check	Check your solution to make sure it is reasonable. Explain why your answer is reasonable. _____ _____

Reteach*Problem-Solving Skill: The Four Step Plan (continued)***Solve. Use the *four-step plan*.**

1. Pablo started a game with 650 points. He lost 300 points.
How many points did he have at the end of the game?

What facts do you know? _____

Plan what you will do and in what order. _____

Use your plan to solve the problem. _____

Check your solution to make sure it is reasonable.

2. Rosa ends a game with 600 points. Tyler has 200 more
points than Rosa. How many points does Tyler have?

What facts do you know? _____

Plan what you will do and in what order. _____

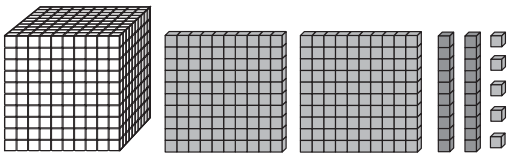
Use your plan to solve the problem. _____

Check your solution to make sure it is reasonable. _____

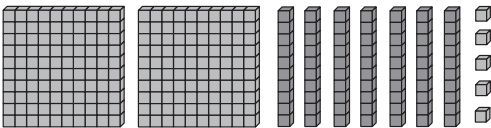
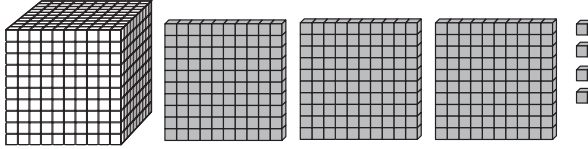
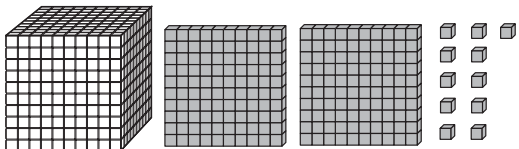
Reteach*Place Value through 1,000*

You can write numbers in *expanded form*, *standard form*, and *word form*.

The models show 1,225.

 <p>1 thousand 2 hundred 2 tens 5 ones</p>	<p>Expanded Form: $1,000 + 200 + 20 + 5$</p> <p>Standard Form: 1,225</p> <p>Word Form: one thousand, two hundred twenty-five</p>
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Look at the model. Write the number in the three forms.

	<p>Expanded form: _____</p> <p>Standard form: _____</p> <p>Word form: _____</p>
	<p>Expanded form: _____</p> <p>Standard form: _____</p> <p>Word form: _____</p>
	<p>Expanded form: _____</p> <p>Standard form: _____</p> <p>Word form: _____</p>

Reteach*Place Value through 10,000*

You can use a chart to find the place value of each digit in a number. Look at the number in the chart below. Then see how to write the number in expanded form and in standard form.

Ten Thousands	Thousands	Hundreds	Tens	Ones
7	8	6	3	5

Expanded Form:

$$70,000 + 8,000 + 600 + 30 + 5$$

(The place value of 7 is ten thousands. It has a value of 70,000.)

Standard Form: 78,635

Write the number 57,981 in the place value chart. Then write the number in *expanded form*.

1.

Ten Thousands	Thousands	Hundreds	Tens	Ones

Expanded Form: _____

Now, write the value of each underlined digit.

2. 32,897 _____

3. 32,897 _____

4. 32,897 _____

5. 32,897 _____

6. 32,897 _____

Hint: Think about the expanded form of 32,897.

Reteach*Problem-Solving Investigation: The Four-Step Plan***Use the *Four-Step Plan***

Tammy baked 32 muffins for her class picnic. Her dog ate some of them, and now Tammy only has 24 muffins left. How many did her dog eat?

Step 1 Understand	Make sure you understand the problem. What do you know? Tammy baked _____ muffins. She has _____ muffins left. What do you need to find? _____ _____
Step 2 Plan • Use the <i>four-step plan</i>	Make a plan. You know Tammy baked 32 muffins. You know she has 24 muffins left. You can demonstrate this by drawing the number of muffins and putting an x through one muffin at a time until you are left with 24. The number of x marks tells you how many muffins the dog ate.
Step 3 Solve	Carry out your plan. Draw 32 muffins. Put an x through one muffin at a time until you are left with 24. Count the x marks. There are 8. So, the dog ate 8 muffins.
Step 4 Check	Is the solution reasonable? Reread the problem. How can you check your answer? _____ _____

Reteach*Problem-Solving Investigation (continued)***Solve using the *four-step plan*.**

1. Tanya bought a book for her father's birthday that cost \$14. She paid the cashier with a \$20 bill. How much change did Tanya receive?

2. Will found a plate of orange slices in the kitchen. He ate 4 of them. When he counted the slices, there were 18 left. How many orange slices were on the plate to start with?

3. Pablo started a game with 65 points. He lost 20 points. How many points did he have at the end of the game?

4. Meg ends a game with 60 points. Ted has 30 points more than Meg. How many points does Ted have?

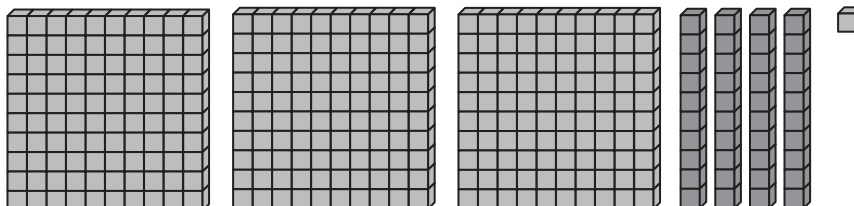
5. Sean and his brothers ate a whole pizza pie. The pizza was divided into 12 slices and each brother had 3 slices. How many brothers does Sean have?

6. Lindsey saw 3 movies at the theater with her friend Emma. If another friend joined them for one movie, how many tickets were bought altogether?

Reteach*Compare Numbers*

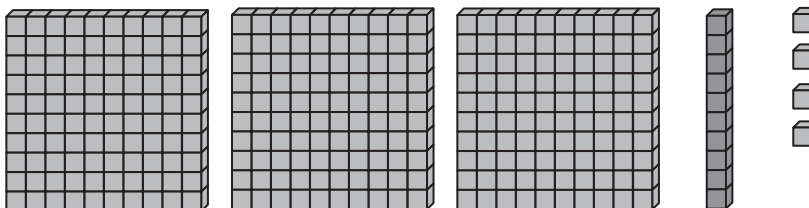
Which number is less, 341 or 314?
Look at the model for each number.

341



Compare the models.

314



Hundreds: 3 (The same for each model)

Tens: 1 (Different for each model)

1 ten is less than 4 tens.

Say: 314 is less than 341.

Write: $314 < 341$.

Compare. Write $>$, $<$, or $=$.

1. $754 \bigcirc 745$

2. $80 \bigcirc 80$

3. $347 \bigcirc 744$

4. $735 \bigcirc 753$

5. $301 \bigcirc 310$

6. $679 \bigcirc 697$

7. $518 \bigcirc 581$

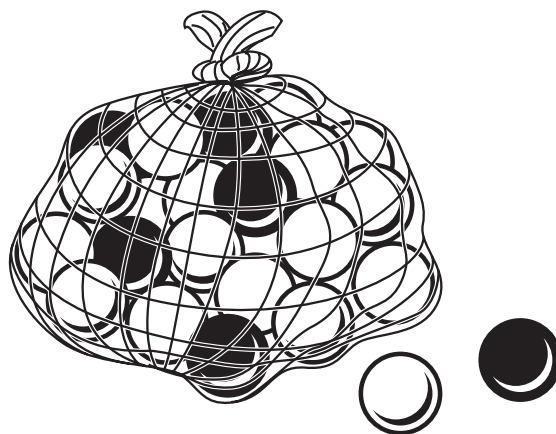
8. $919 \bigcirc 991$

9. $880 \bigcirc 808$

10. $445 \bigcirc 454$

Reteach*Order Numbers*

Bag A has 285 marbles. Bag B Has 346 marbles. Bag C has 279 marbles. Which bag has the most? Which bag has the least?



To compare amounts of marble, first compare the hundreds and then the tens.

Step 1

Compare the hundreds.

279

346 ← most hundreds

285

$3 > 2$

Step 2

Compare the tens.

279

285 ← more tens

$85 > 79$

Step 3

Put the amounts in order from *greatest* to *least*.

346

285

279

Order the numbers from *least* to the *greatest*.

1. 3,456 3,565 3,446 _____

2. 1,606 1,609 1,669 _____

3. 8,009 8,909 8,099 _____

Order the numbers from *greatest* to the *least*.

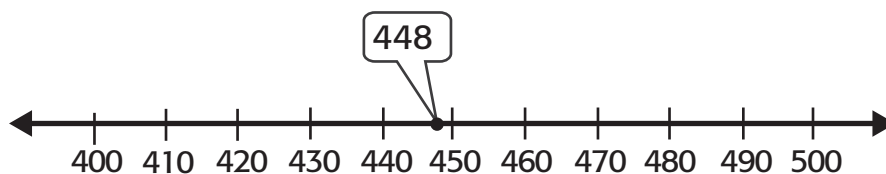
4. 6,589 6,879 6,599 _____

5. 5,668 5,887 5,688 _____

6. 3,033 3,003 3,330 _____

Reteach*Round to the Nearest ten and Hundred*

You can use a number line to help you round numbers. Round 448 to the nearest ten and to the nearest hundred.



448 is closer to 450 than to 440.

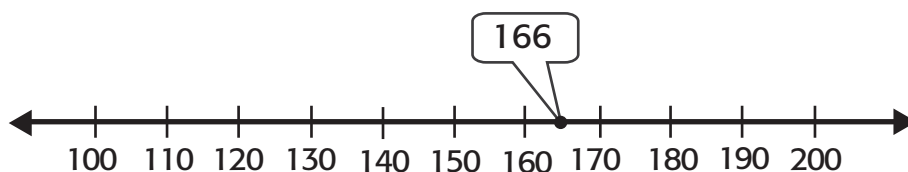
To the nearest ten, 448 rounds to 450.

448 is closer to 400 than to 500.

To the nearest hundred, 448 rounds to 400.

**Round each number to the nearest ten and nearest hundred.
Use a number line to help you.**

1. 166 ten _____ hundred _____



2. 709 ten _____ hundred _____

3. 185 ten _____ hundred _____

4. 234 ten _____ hundred _____

5. 561 ten _____ hundred _____

6. 478 ten _____ hundred _____

Reteach*Round to the Nearest Thousand*

Use a place-value chart to help you round numbers.

Round 7,485 to the nearest thousand.

Thousands	Hundreds	Tens	Ones
7	4	8	5

To round to the nearest thousand, look at the hundreds place.

The number of hundreds is less than 5. Round down to 7,000.

Round to the nearest *thousand*.

1.

Thousands	Hundreds	Tens	Ones
5	8	3	4

2.

Thousands	Hundreds	Tens	Ones
3	0	4	8

3.

Thousands	Hundreds	Tens	Ones
1	9	1	6

4.

Thousands	Hundreds	Tens	Ones
4	5	2	0

5. 2,466 _____ 6. 2,335 _____ 7. 1,290 _____






8. 7,022 _____ 9. 6,690 _____ 10. 7,988 _____

11. 4,703 _____ 12. 5,824 _____ 13. 3,915 _____

14. 9,152 _____ 15. 8,619 _____ 16. 6,397 _____

Reteach*Value of Coins and Bills*

In the United States, money includes coins and bills.

Coin		Value
Penny		1¢ or \$0.01
Nickel		5¢ or \$0.05
Dime		10¢ or \$0.10
Quarter		25¢ or \$0.25
Half-Dollar		50¢ or \$0.50

Coins have different values, colors, and designs. The unit is **cent (¢)**.

Bills are paper money. Bills have different colors, designs and values. The unit is **dollar (\$)**.

Determine the value of coins.

1.  _____

2.  _____

Determine the value of bills and coins.

3.  _____

4.  _____

Reteach*Algebra: Addition Properties*

You can use different strategies to help you add.

Commutative Property

You can change the order of the addends, but the sum is always the same.

$$4 + 5 = 9$$

$$5 + 4 = 9$$

Identity Property

When you add 0 to a number, the sum is always that number.

$$6 + 0 = 6$$

Associative Property

You can group the addends and keep the sum the same.

$$(2 + 4) + 6 \quad 2 + (4 + 6)$$

$$6 + 6 \quad 2 + 10$$

$$12 \quad 12$$

Fill in the blank.

1. If you know $3 + 6 = \underline{\hspace{2cm}}$, then you know

$$\underline{\hspace{2cm}} + 3 = \underline{\hspace{2cm}}.$$

2. If you know $8 + 0 = \underline{\hspace{2cm}}$, then you know

$$\underline{\hspace{2cm}} + 8 = \underline{\hspace{2cm}}.$$

3. If you know $(5 + 6) + 4 = \underline{\hspace{2cm}}$, then you know

$$5 + (\underline{\hspace{2cm}} + 4) = \underline{\hspace{2cm}}.$$

Find each sum.

4. $4 + 7 = \underline{\hspace{2cm}}$

5. $9 + 2 = \underline{\hspace{2cm}}$

6. $7 + 5 = \underline{\hspace{2cm}}$

7. $3 + 9 = \underline{\hspace{2cm}}$

8. $12 + 5 = \underline{\hspace{2cm}}$

9. $0 + 4 = \underline{\hspace{2cm}}$

Reteach*Problem-Solving Skill: Estimate of Exact Answer***Estimate or Exact Answer**

Sometimes when you solve a problem you need an *exact answer*. Other times you need an *estimate*. Deciding if you need an exact answer or an estimate will help you solve the problem. Let's try an example.

In an hour's time, Leah can make 12 greeting cards. Steven can make 9 cards in the same amount of time. Together, *about* how many cards can they make?

Step 1

Understand What facts do you know?

- Leah makes 12 cards in an hour.
- Steven makes 9 cards in an hour.

Step 2

Plan

Do you need an *exact* answer to this question?
No. When you see *about*, you know that an *estimated* answer is needed.

Step 3

Solve

First, round each number.

Leah 12 cards \rightarrow 10 cards

Steven 9 cards \rightarrow 10 cards

Now, add both of your rounded numbers. This will give you a final estimate.

$$10 + 10 = 20$$

So, Leah and Steven can make about 20 greeting cards in an hour.

Step 4

Check

Look back at the problem. Since it says "about how many," you know that making an estimate is the correct plan. Notice that since $12 + 9 = 21$, your estimate is very close to the exact answer!

Reteach*Problem-Solving Skill (continued)*

Tell whether an *estimate* or an *exact* answer is needed. Then solve.

1. On Saturday, Zachary's sister worked in the garden and planted 24 flowers. On Sunday, she planted 15 flowers. How many flowers did she plant in all?

2. The Littleton Public Library gets 37 new magazines and books every week. In 3 weeks, about how many books and magazines will be received?

3. There are enough seats for 55 students on the bus. Can all 35 boys and 28 girls ride the bus?

4. Raul cut 3 pieces of fabric. One piece was 12 inches long. Another piece was 41 inches long, and the other piece was 30 inches long. Will Raul have enough fabric for a project that needs 67 inches of fabric? Explain.

5. About how many minutes did Katie practice her flute last week?

Monday	24 minutes
Wednesday	17 minutes
Friday	12 minutes

Reteach*Estimate Sums*

Estimation can be a very useful tool. If the Corner News Stand sold 122 newspapers on Monday, 94 newspapers on Tuesday, and 170 newspapers on Wednesday, *about* how many newspapers were sold in all? Rounding will help you find the answer to this problem.

Corner News Stand		
	Actual amount	Round to the nearest 100
Monday	122	100
Tuesday	94	100
Wednesday	170	200
Estimated Total		400

About 400 newspapers were sold on these three days.

Compatible numbers is another way to find an approximate sum. At the community center, 36 people are swimming, 54 people are playing golf, and 27 people are at the snack bar. About how many people are there in all?

Numbers ending in 0 or 5 are easy to add.

$$36 \rightarrow 35 \qquad 54 \rightarrow 55 \qquad 27 \rightarrow 30$$

$$35 + 55 + 20 = 120$$

So, there are about 120 people at the community center.

Estimate each sum using rounding.

1. $49¢ + 73¢$ _____

2. $595 + 153$ _____

Estimate each sum using compatible numbers.

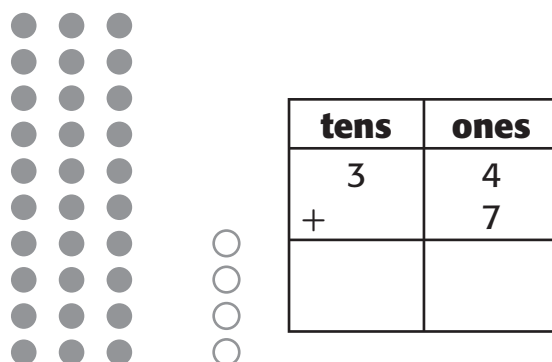
3. $\$77 + \66 _____

4. $126 + 559$ _____

Reteach*Two-Digit Addition*

The left side of a two-digit number tells us how many tens we have, while the digit on the right shows how many ones we have.

For example, if you have 34 marbles, you have 3 groups of ten marbles and 4 marbles.



If a friend gives you 7 more marbles, you can add 6 of them to your group of 4 marbles ($4 + 6 = 10$) to make another ten-marble group. Since ($7 - 6 = 1$), you will have one marble left over. Using your pencil, add the marbles to the chart above.

Looking at the chart, it is easy to see that you now have 41 marbles.

Add. Check for reasonableness.

1. $37 + 2 =$ _____

7. $52 + 9 =$ _____

2. $18 + 36 =$ _____

8. $66 + 6 =$ _____

3. $41 + 6 =$ _____

9. $43 + 9 =$ _____

4. $33 + 16 =$ _____

10. $77 + 3 =$ _____

5. $12 + 19 =$ _____

11. $34 + 7 =$ _____

6. $50 + 8 =$ _____

12. $51 + 11 =$ _____

Reteach*Add Money*

When you add cents, it is just like adding one- or two-digit numbers, except that you put a cent sign (¢) after each number. Adding dollars is just the same, but a dollar sign (\$) is written before each number.

- A.** Samantha opened her piggy bank and found 75¢ inside. If she has 8¢ in her pocket, how much money does she have?

Add 75¢ and 8¢.

$$\begin{array}{r} 1 \\ 75\text{¢} \\ + 8\text{¢} \\ \hline 83\text{¢} \end{array}$$

- B.** Samantha bought a book for \$10, a book cover for \$3, and a package of pencils for \$2. How much money did she spend in all?

Add \$10, \$3, and \$2.

$$\begin{array}{r} \$10 \\ \$3 \\ + \$2 \\ \hline \$15 \end{array}$$

Samantha spent \$15.

Add. Use estimation to check for reasonableness.

1. $\begin{array}{r} 12\text{¢} \\ + 77\text{¢} \\ \hline \end{array}$

2. $\begin{array}{r} 45\text{¢} \\ + 27\text{¢} \\ \hline \end{array}$

3. $\begin{array}{r} 01\text{¢} \\ + 49\text{¢} \\ \hline \end{array}$

4. $\begin{array}{r} \$65 \\ + \$16 \\ \hline \end{array}$

5. $\begin{array}{r} \$15 \\ + \$23 \\ \hline \end{array}$

6. $\begin{array}{r} \$28 \\ + \$31 \\ \hline \end{array}$

7. $\begin{array}{r} \$76 \\ + \$15 \\ \hline \end{array}$

8. $\begin{array}{r} 35\text{¢} \\ + 48\text{¢} \\ \hline \end{array}$

9. $\begin{array}{r} \$26 \\ + \$53 \\ \hline \end{array}$

Reteach*Problem-Solving Investigation: The Four-Step Plan*

The bookshelf at Sarah's house has 3 shelves. Each shelf can hold 15 books. Sarah has 17 books. Ed has 19 books. Jen has 10 books. Will all of their books fit on the bookshelf?

There is a lot to organize and understand in this problem. Use the four-step plan.

Step 1

Understand

You know how many books each of the 3 shelves will hold, and how many books each person has.

Step 2

Plan

There is a lot of information, so make a table.

Step 3

Solve

Shelf	Books on Shelf	Books left over?	Space on shelf?
Shelf 1 (Sarah)	15	2	no
Shelf 2 (Ed)	15	4	no
Shelf 3 (Jen)	10	0	yes—for 5 books

Sarah has 2 books left over and Ed has 4 books left over.

$$2 + 4 = 6$$

There is room for 5 books on Jen's shelf. Since 6 is greater than 5, all of their books will not fit.

Reteach*Problem-Solving Investigation (continued)***Step 4**

Check

Look back at the problem.

$15 + 15 + 15 = \underline{\hspace{2cm}}$, so $\underline{\hspace{2cm}}$ books can fit on the bookshelf.

$17 + 19 + 10 = \underline{\hspace{2cm}}$. Since $46 > 45$, one book will be left over.

Solve. Then tell whether you used an *estimate* or an *exact* answer.

1. If Kiki buys a digital camera that costs \$73 and a book that costs \$12, about how much will she pay?

2. Michelle has saved \$19 from her allowance, and her sister Maria has saved \$5. They want to buy their mother a \$30.00 pair of earrings for Mothers' Day. Together, do have enough money?

3. Filipa wants to learn karate. One month of classes costs \$55, and a karate suit costs \$35. How much will she pay?

4. 312 people went to the chorus concert. 273 people went to the band concert. About how many people went to both concerts?

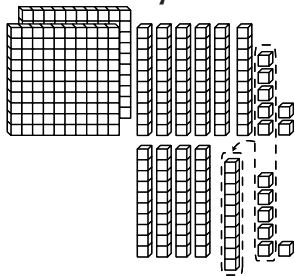
Reteach*Three-Digit Addition*

You can use models to add.

Find $267 + 46$.

Step 1

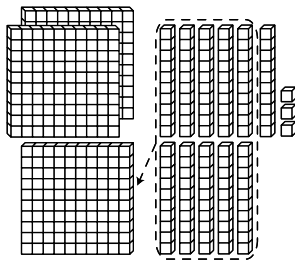
Add the ones. Regroup if necessary.



$$\begin{array}{r} 1 \\ 267 \\ + 46 \\ \hline \end{array} \text{ Think: 13 ones = } 1 \text{ ten, 3 ones}$$

Step 2

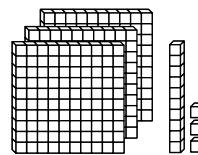
Add the tens. Regroup if necessary.



$$\begin{array}{r} 11 \\ 267 \\ + 46 \\ \hline \end{array} \text{ Think: 11 tens = } 1 \text{ hundred, 1 ten}$$

Step 3

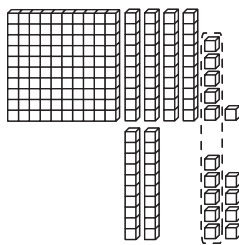
Add the hundreds. Regroup if necessary.



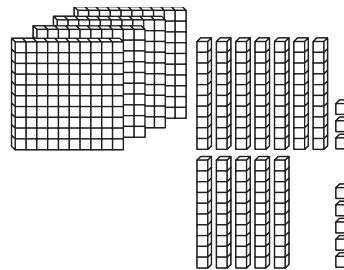
$$\begin{array}{r} 11 \\ 267 \\ + 46 \\ \hline \end{array} \text{ Think: 1 hundred + 2 hundreds = 3 hundreds}$$

Find each sum. Use models to help.

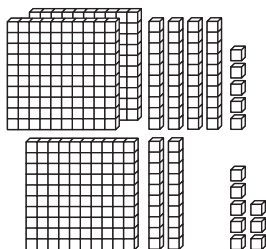
$$\begin{array}{r} 1 \\ 1. \quad 146 \\ + 29 \\ \hline \end{array}$$



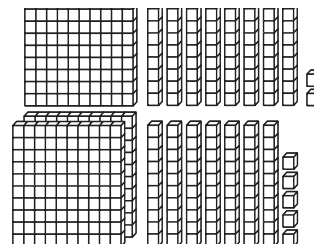
$$\begin{array}{r} 2. \quad 473 \\ + 55 \\ \hline \end{array}$$



$$\begin{array}{r} 3. \quad 245 \\ + 128 \\ \hline \end{array}$$



$$\begin{array}{r} 4. \quad 182 \\ + 275 \\ \hline \end{array}$$



Reteach*Add Greater Numbers*

Adding two- and three-digit numbers is just like adding two-digit numbers.

Read the problem.

One mile is equal to 5,280 feet. Hunter went on a nature hike.

First, he hiked one mile, and then he hiked another 1,323 feet.

How many feet did he hike?

One way to find the sum is by regrouping. First, estimate to the nearest thousand.

$$\begin{array}{r} 5,280 \rightarrow \underline{\hspace{2cm}} \\ + 1,323 \rightarrow \underline{\hspace{2cm}} \\ = \underline{\hspace{2cm}} \end{array}$$

Now, find the exact answer.

Step 1

Add the ones.

$$0 + 3 = \underline{\hspace{2cm}}$$

Step 2

Add the tens.

$$8 + 2 = \underline{\hspace{2cm}}$$

Regroup as a hundred.

Step 3

Add the hundreds.

$$[1] + 2 + 3$$

$$= \underline{\hspace{2cm}}$$

Step 4

Add the thousands

$$5 + 1 = \underline{\hspace{2cm}}$$

So, Hunter hiked
_____ feet on
the nature hike.

Find each sum. Use estimation to check for reasonableness.

1. $349 + 1,223$ _____

2. $\$4,828 + \$3,184$ _____

3. At Cliffside Park, there are 121 maple trees, 109 beech trees, and 382 oak trees. How many trees are in the park?

Reteach*Two-Digit Subtraction***When you want to compare numbers, you subtract.**Find $16 - 3$.

Step 1	Model 16. $\begin{array}{r} 16 \\ - 3 \\ \hline \end{array}$	Subtract the ones . $6 \text{ ones} - 3 \text{ ones} = 3 \text{ ones}$
Step 2	$\begin{array}{r} 16 \\ - 3 \\ \hline 13 \end{array}$	Subtract the tens . $1 \text{ tens} - 0 \text{ tens} = 1 \text{ ten}.$ So, $16 - 3 = 13$.

When there are not enough ones to subtract from, you need to regroup.Find $14 - 8$.

Step 1	Model 14. $\begin{array}{r} 14 \\ - 8 \\ \hline \end{array}$	Subtract the ones . $8 \text{ ones} > 4 \text{ ones}$, so regroup.
Step 2	Regroup 1 tens into 10 ones. $\begin{array}{r} 14 \\ - 8 \\ \hline 6 \end{array}$	$10 \text{ ones} + 4 \text{ ones} = 14 \text{ ones}$ Subtract. $14 \text{ ones} - 8 \text{ ones} = 6 \text{ ones}$
Step 3	Subtract the tens . $\begin{array}{r} 14 \\ - 8 \\ \hline 06 \end{array}$	$0 \text{ tens} - \text{no tens} = 0 \text{ tens}$ So, $14 - 8 = 6$.

Subtract. Use models if needed. Check your answer.

1.
$$\begin{array}{r} 37 \\ - 3 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 49 \\ - 7 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 82 \\ - 9 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 31 \\ - 6 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 77 \\ - 8 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 63 \\ - 9 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 54 \\ - 3 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 22 \\ - 1 \\ \hline \end{array}$$

Reteach*Estimate Differences*

To estimate a difference, round each number and then subtract.

Round to the nearest
ten.

$$\begin{array}{r} 51 - 27 \\ \downarrow \quad \downarrow \\ 50 - 30 = 20 \end{array}$$

Round to the nearest
hundred.

$$\begin{array}{r} 913 - 496 \\ \downarrow \quad \downarrow \\ 900 - 500 = 400 \end{array}$$

Round to the nearest
thousand.

$$\begin{array}{r} 2,634 - 1,807 \\ \downarrow \quad \downarrow \\ 3,000 - 2,000 = 1,000 \end{array}$$

Estimate each difference. Show how you rounded.

$$\begin{array}{r} 1. \quad 91 - 38 \\ \downarrow \quad \downarrow \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \end{array}$$

$$\begin{array}{r} 2. \quad 685 - 193 \\ \downarrow \quad \downarrow \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \end{array}$$

$$\begin{array}{r} 3. \quad 809 - 485 \\ \downarrow \quad \downarrow \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \end{array}$$

$$\begin{array}{r} 4. \quad 1,886 - 1,050 \\ \downarrow \quad \downarrow \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \end{array}$$

$$\begin{array}{r} 5. \quad 7,801 - 4,118 \\ \downarrow \quad \downarrow \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \end{array}$$

$$\begin{array}{r} 6. \quad 9,111 - 5,138 \\ \downarrow \quad \downarrow \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \end{array}$$

Estimate each difference.

$$7. \quad 63 - 28 \underline{\hspace{1cm}}$$

$$8. \quad 82 - 69 \underline{\hspace{1cm}}$$

$$9. \quad 850 - 291 \underline{\hspace{1cm}}$$

$$10. \quad 635 - 119 \underline{\hspace{1cm}}$$

$$11. \quad 709 - 371 \underline{\hspace{1cm}}$$

$$12. \quad 545 - 172 \underline{\hspace{1cm}}$$

$$13. \quad 9,024 - 1,915 \underline{\hspace{1cm}}$$

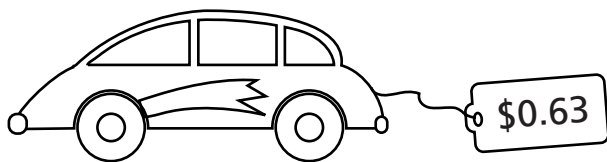
$$14. \quad 7,070 - 5,885 \underline{\hspace{1cm}}$$

$$15. \quad 4,671 - 2,119 \underline{\hspace{1cm}}$$

$$16. \quad 6,401 - 4,229 \underline{\hspace{1cm}}$$

Reteach*Subtract Money*

You can count up to make change. Start with the cost. Then count up from the coin or bill with the least value to the coin or bill with the greatest value. Stop counting when you reach the amount given.

**Cost:** 63¢**Amount given:** \$1

Count up: 63¢ 64¢ 65¢ 75¢ \$1 The change is 37¢.

Find the difference by counting up.**1. Cost:** 87¢**Amount given:** \$1

Count up: _____

The change is _____.

2. Cost: 35¢**Amount given:** 75¢

Count up: _____

The change is _____.

3. Cost: \$2**Amount given:** \$10

Count up: _____

The change is _____.

Reteach*Problem-Solving Skill: Reasonable Answers*

After you solve a problem, it is important to check if your answer makes sense. One way to check if your answer is reasonable is to use estimates.

Use this exercise to learn more about checking whether an answer is reasonable.

Jorge has 243 baseball cards, and 198 cards are infielders. Jorge thinks he has about 50 outfielder cards. Is this reasonable?

Understand	<p>You know there are 243 cards.</p> <p>You know that 198 cards are infielder cards.</p> <p>You need to find out if 50 outfielder cards is a reasonable answer.</p>
Plan	<p>Choose a strategy. You are finding part of a group.</p> <p>You will estimate and subtract to find about how many cards are left.</p> <p>You will also subtract to find the exact answer.</p>
Solve	<p>First, estimate by rounding to the nearest 10.</p> <p>$243 - 198$ turns into $240 - 200 = 40$</p> <p>Then subtract. $243 - 198 = 45$</p>
Check	<p>Look back at the problem. Jorge's guess was that he had 50 outfielder cards. That is close to the estimate of 40. Jorge's guess is reasonable.</p> <p>Also check your answer by working the problem backwards:</p> <p>$45 + 198 = 243$</p> <p>Since 243 is the number you started your subtraction with, your answer is correct.</p>

Reteach*Problem-Solving Skill (continued)***Solve. Check for reasonableness.**

1. Angel's family is having dinner. The pizza delivery will cost \$9. Angel has one \$20 bill to pay for the pizza. Is it reasonable for Angel to expect about \$10 in change from the delivery person? _____
Explain.

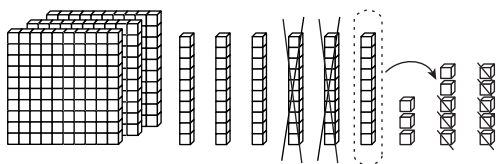
2. Vanessa kicked the soccer ball at the goal 117 times yesterday. She kicked the ball 112 times today. Is it reasonable for Vanessa to say that she kicked the ball about 300 times? _____
Explain.

3. Adrian estimates that he will need to bring 90 cookies for the third-grade picnic. There are 32 students in room 1, 31 students in room 2, and 31 students in room 3. Is 90 cookies a reasonable estimate? _____
Explain.

4. Holly wants to buy her 3 favorite songs. They cost \$2, \$1, and \$3. She estimates that she will need \$5 to buy the 3 songs. Is this a reasonable estimate? _____
Explain.

5. Greg read 10 books last week and 12 books this week. Is it a reasonable estimate to say that he read 20 books? _____
Explain.

6. Jacqueline wants to buy a book and a CD. The book is \$4. The CD is \$12. She estimates \$15 will be enough money. Is this a reasonable estimate? _____
Explain.

Reteach*Subtract Three-Digit Numbers with Regrouping***You can use models to help you regroup when you subtract.**

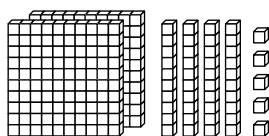
$$\begin{array}{r} 5 \quad 13 \\ 3\cancel{6}3 \\ - 28 \\ \hline 335 \end{array}$$

Remember:

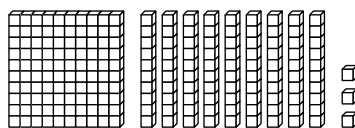
- Regroup 1 ten as 10 ones.
- Rename 63 as 5 tens 13 ones.

Use models to subtract.

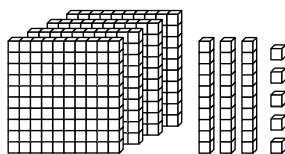
1. $245 - 19 = \underline{\hspace{2cm}}$



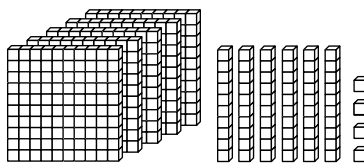
2. $193 - 44 = \underline{\hspace{2cm}}$



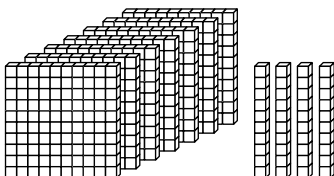
3. $435 - 219 = \underline{\hspace{2cm}}$



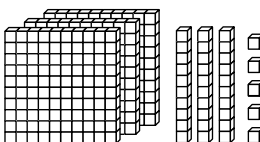
4. $564 - 228 = \underline{\hspace{2cm}}$



5. $740 - 426 = \underline{\hspace{2cm}}$



6. $335 - 127 = \underline{\hspace{2cm}}$

**Subtract. Check your answer.**

7. $962 - 722 = \underline{\hspace{2cm}}$ 8. $681 - 361 = \underline{\hspace{2cm}}$ 9. $750 - 136 = \underline{\hspace{2cm}}$

10. $435 - 219 = \underline{\hspace{2cm}}$ 11. $865 - 839 = \underline{\hspace{2cm}}$ 12. $942 - 927 = \underline{\hspace{2cm}}$

Reteach*Problem-Solving Investigation: Choose a Strategy*

Sometimes you can solve a problem using more than one strategy. You must choose the strategy that works best for you when solving the problem.

Use this exercise to learn more about choosing a strategy to solve a problem.

Tristan has \$43. If he buys a basket ball for \$21, how much money does he have left?

Understand	What do you know? <ul style="list-style-type: none"> • You know Tristan has \$43. • You know Tristan spent \$21. What do you need to find? <ul style="list-style-type: none"> • You need to find out how much money Tristan has left.
Plan	<p>A four-step plan is a good way to solve many problems.</p> <p>When you read the problem to find out what information you know, circle key facts or words and underline what you need to find out.</p> <p>Since you need to find how much money is left, subtract.</p>
Solve	<p>First take the money Tristan started with: \$43</p> <p>Subtract what he spent: \$21</p> <p>To find what is left: $\\$43 - \\$21 = \\$22$</p>
Check	<p>Prove your answer:</p> <p>Look at the problem again. Work backward to check:</p> <p>$\\$22 + \\$21 = \\$43$</p>

Reteach*Problem-Solving Investigation (continued)***Practice**

Use any strategy shown below to solve. Tell what strategy you used.

- Estimate or an exact answer
- Reasonable answer
- Work backward

1. The animal shelter rescued 57 animals after the storm.

Now there are 862 animals at the shelter.

How many animals were there before the storm? _____

What strategy did you use? _____

2. Mrs. Connolly hid 115 prizes around the school. She

gave her students clues to solve. Her students found

82 prizes. About how many prizes are still missing? _____

What strategy did you use? _____

3. 12 jars of paint come in a box. Trevor saw a sign that

says each jar of paint costs \$2. How

much will the box of paints cost? _____

What strategy did you use? _____

4. Natalie started the day with 178 bags of trail mix.

Now she has 50 bags of trail mix left. Is it reasonable

to say she gave away about 130 bags of trail mix? _____

What strategy did you use? _____

5. Connor's grandfather gave him 87 baseball cards. Now

he has 576 cards. How many cards did he have

before his grandfather gave him more cards? _____

What strategy did you use? _____

6. Sabrina has 83¢. She spent 67¢ at the store.

How much money does she have left? _____

What strategy did you use? _____

Reteach*Subtract Greater Numbers***Find $6,426 - 3,278$.****Subtract the ones.**

Regroup if necessary.

2 tens 6 ones = 1 ten 16 ones

Subtract the tens.

Regroup if necessary.

4 hundreds 1 ten = 3 hundreds 11 tens

Subtract the hundreds and thousands.

Thousands	Hundreds	Tens	Ones
		11	
	3	7	16
6	4	2	6
— 3	2	7	8
3	1	4	8

Subtract. Check each answer.

$$\begin{array}{r} 1. \quad 4,685 \\ - 1,279 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad \$9,354 \\ - \$1,953 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 6,527 \\ - 432 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 8,711 \\ - 7,338 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 6,005 \\ - 5,732 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad \$8,832 \\ - \$448 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 4,213 \\ - 2,999 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad \$9,595 \\ - \$1,396 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 6,762 \\ - 3,883 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 9,000 \\ - 457 \\ \hline \end{array}$$

$$11. \quad 8,447 - 4,191 = \underline{\hspace{2cm}}$$

$$12. \quad \$6,229 - \$5,337 = \underline{\hspace{2cm}}$$

$$13. \quad 8,674 - 482 = \underline{\hspace{2cm}}$$

$$14. \quad \$1,373 - \$998 = \underline{\hspace{2cm}}$$

$$15. \quad 7,147 - 2,639 = \underline{\hspace{2cm}}$$

$$16. \quad 9,521 - 3,587 = \underline{\hspace{2cm}}$$

$$17. \quad 5,010 - 1,999 = \underline{\hspace{2cm}}$$

$$18. \quad 6,000 - 2,730 = \underline{\hspace{2cm}}$$

$$19. \quad \$8,315 - \$798 = \underline{\hspace{2cm}}$$

$$20. \quad 7,040 - 655 = \underline{\hspace{2cm}}$$

$$21. \quad 4,000 - 1,432 = \underline{\hspace{2cm}}$$

$$22. \quad \$3,208 - \$625 = \underline{\hspace{2cm}}$$

Reteach*Subtract Across Zeros*

You can use place-value charts to help you regroup across zeros.

Find $305 - 176$.

Step 1

Subtract the ones.
No tens to regroup.
Regroup the hundreds.

Hundreds	Tens	Ones
2 3 - 1	10 0 7	5 6

Step 2

Regroup the tens.

Hundreds	Tens	Ones
2 3 - 1	⁹ 10 0 7	15 5 6

Step 3

Subtract the ones, tens, and hundreds.

Hundreds	Tens	Ones
2 3 - 1	⁹ 10 0 7	15 5 6
1	2	9

Subtract. Check your answer.

1. $106 - 28$

2. $\$503 - \167

3. $405 - 218$

4. $\$601 - \378

5. $200 - 145$

6. $205 - 92$

7. $308 - 175$

8. $300 - 56$

9. $\$505 - \90

10. $802 - 132$

11. $500 - 418 =$ _____

12. $\$206 - \$138 =$ _____

13. $801 - 482 =$ _____

14. $100 - 33 =$ _____

15. $607 - 527 =$ _____

16. $\$700 - \$19 =$ _____

17. $\$902 - \$863 =$ _____

18. $400 - 189 =$ _____

Reteach*Select Addition or Subtraction*

How do you decide if you should add or subtract? Looking for key words in a problem can help you decide.

The following words help you know that you should **add**:

in all altogether total sum

The following words help you know that you should **subtract**:

how many more difference how many left

The classroom has 27 desks. There are 23 students sitting at the desks.
How many desks are left?

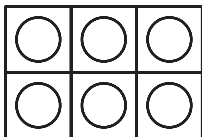
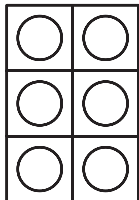
The words how many left tell you that you should subtract: $27 - 23 = 4$.
There are 4 desks left.

Underline the words that tell you if you should add or subtract. Select addition or subtraction to solve.

1. Dustin read 23 pages. There are 91 pages in the book. How many more pages must Dustin read to finish the book?

2. Gina has 315 stickers. Tara has 219. How many stickers do Gina and Tara have altogether?

3. Austin walked his dog for 17 minutes in the morning and 19 minutes in the evening. How many total minutes did he walk his dog?

Reteach*Arrays and Multiplication***Find 2×3 and 3×2 .****Using Models**Make 2 rows of 3 counters to show 2×3 .Make 3 rows of 2 counters to show 3×2 .**Using Paper and Pencil**

Number of rows		Number in each row		Product
-------------------	--	-----------------------	--	---------

$$2 \times 3 = 6$$

Number of rows		Number in each row		Product
-------------------	--	-----------------------	--	---------

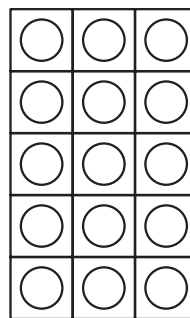
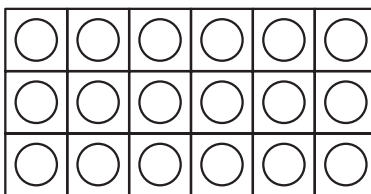
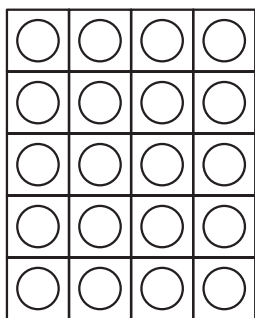
$$3 \times 2 = 6$$

Draw lines to match the multiplication sentence with an array. Then use the Commutative Property to write a different multiplication sentence.

1. $5 \times 3 = 15$

2. $3 \times 6 = 18$

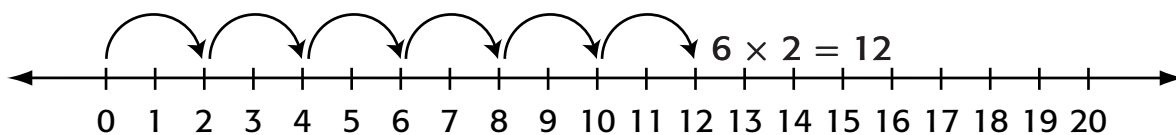
3. $5 \times 4 = 20$



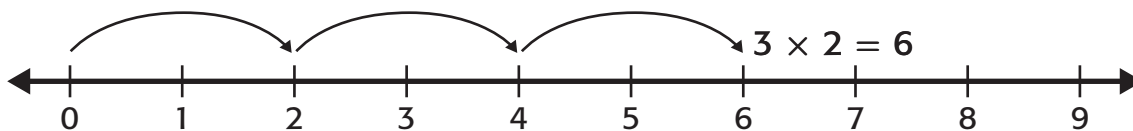
Reteach*Multiply by 2*

You can skip count on the number line to help you multiply two numbers.

Find 6×2 . Think: 6 groups of 2 or 6 jumps of 2 spaces



Find 3×2 . Think: 3 groups of 2 or 3 jumps of 2 spaces



Multiply. You may want to use a number line.

1. $4 \times 2 = \underline{\hspace{2cm}}$

2. $7 \times 2 = \underline{\hspace{2cm}}$

3. $2 \times 9 = \underline{\hspace{2cm}}$

4. $5 \times 2 = \underline{\hspace{2cm}}$

5. $2 \times 6 = \underline{\hspace{2cm}}$

6. $2 \times 3 = \underline{\hspace{2cm}}$

7. $2 \times 2 = \underline{\hspace{2cm}}$

8. $2 \times 4 = \underline{\hspace{2cm}}$

9. $9 \times 2 = \underline{\hspace{2cm}}$

10. $1 \times 2 = \underline{\hspace{2cm}}$

11. $8 \times 2 = \underline{\hspace{2cm}}$

12. $6 \times 2 = \underline{\hspace{2cm}}$

13. $2 \times 7 = \underline{\hspace{2cm}}$

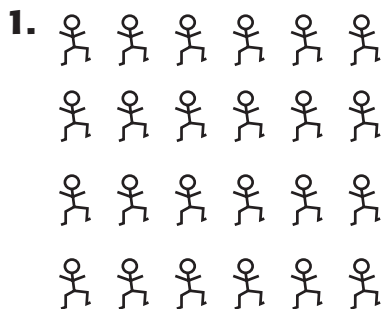
14. $3 \times 2 = \underline{\hspace{2cm}}$

15. $2 \times 5 = \underline{\hspace{2cm}}$

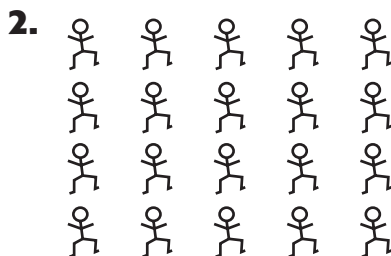
16. $2 \times 8 = \underline{\hspace{2cm}}$

Reteach*Multiply by 4***Find 4×5 .****Using Models****Using Pencil and Paper**

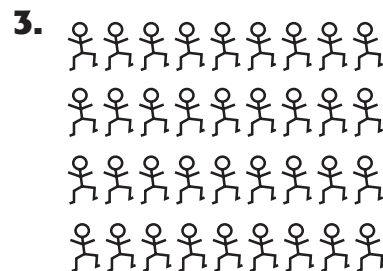
Number of rows		Number in each row		Total
4	\times	5	$=$	20

Use the picture to find the product.

$4 \times 6 = \underline{\hspace{2cm}}$



$4 \times 5 = \underline{\hspace{2cm}}$



$4 \times 9 = \underline{\hspace{2cm}}$

Use models or draw a picture to multiply.

4. $4 \times 7 = \underline{\hspace{2cm}}$

5. $4 \times 4 = \underline{\hspace{2cm}}$

6. $4 \times 3 = \underline{\hspace{2cm}}$

7. $3 \times 4 = \underline{\hspace{2cm}}$

8. $4 \times 2 = \underline{\hspace{2cm}}$

9. $4 \times 1 = \underline{\hspace{2cm}}$

10. $4 \times 6 = \underline{\hspace{2cm}}$

11. $9 \times 4 = \underline{\hspace{2cm}}$

12. $4 \times 8 = \underline{\hspace{2cm}}$

13. $7 \times 4 = \underline{\hspace{2cm}}$

14. $4 \times 9 = \underline{\hspace{2cm}}$

15. $2 \times 4 = \underline{\hspace{2cm}}$

16. $5 \times 4 = \underline{\hspace{2cm}}$

17. $6 \times 4 = \underline{\hspace{2cm}}$

18. $1 \times 4 = \underline{\hspace{2cm}}$

19. $4 \times 5 = \underline{\hspace{2cm}}$

20. $2 \times 4 = \underline{\hspace{2cm}}$

21. $4 \times 4 = \underline{\hspace{2cm}}$

Reteach*Problem-Solving Skill: Extra or Missing Information***Extra or Missing Information**

Math class starts at 10:00 A.M. and lasts for 55 minutes. Art class starts 5 minutes after math class ends. Art class ends at 11:45 A.M. How long is art class?

Step 1 Understand	Make sure you understand the problem. What do you need to find? How long is art class?
Step 2 Plan	Make a plan Find out when art class begins and ends. Find the necessary information. Math starts at 10:00. It lasts for 55 minutes. Art starts 5 minutes later. Art class ends at 11:45.
Step 3 Solve	Carry out your plan. Find when math class ends. 10:00 → 55 minutes later → 10:55 Art starts 5 minutes later. 10:55 → 5 minutes later → 11:00 How long is art class? 11:00 → 11:45 = 45 minutes Art class is 45 minutes long.
Step 4 Check	Check your answer. Make sure you used the correct information.

Reteach*Problem-Solving Skill (continued)*

Solve. If there is missing information, tell what facts you need to solve the problem.

1. Kirk practices the trumpet for 30 minutes on Tuesday, 45 minutes longer than that on Wednesday, and 30 minutes on Thursday. How much time does Kirk practice his trumpet in all?

2. Meg does spelling homework for 1 hour and reading homework for 30 minutes. Her science homework takes 10 minutes longer than her reading homework. How long does she spend on her homework?

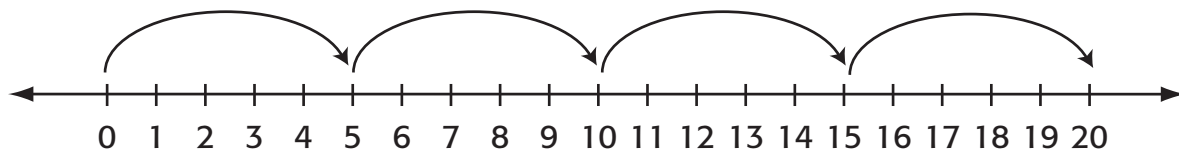
3. Samantha ate 4 servings of fruit every day for 7 days. Sometimes she ate strawberries, sometimes she ate peaches, and sometimes she drank orange juice. How many servings of fruit did Samantha eat?

4. Marcy is 3 inches taller than her sister. Her sister is 8 years old. How much taller is Marcy than her sister?

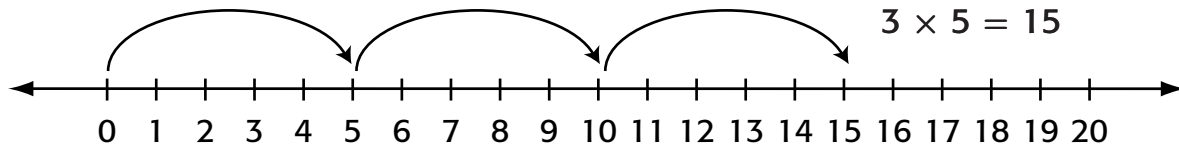
5. Elena has \$20 to spend at the fair. She already knows that she wants to buy an item that costs \$10. She also has to spend \$4 total on travel to and from the fair. How much money will she have left to spend after she pays for these things?

Reteach*Multiply by 5***You can skip count on the number line to multiply by 5.****Find 4×5 .** Think: 4 groups of 5 or 4 jumps of 5

$4 \times 5 = 20$

**Find 3×5 .** Think: 3 groups of 5 or 3 jumps of 5

$3 \times 5 = 15$

**Multiply. You may want to use a number line.**

1. $2 \times 5 = \underline{\hspace{2cm}}$

2. $4 \times 5 = \underline{\hspace{2cm}}$

3. $7 \times 5 = \underline{\hspace{2cm}}$

4. $5 \times 5 = \underline{\hspace{2cm}}$

5. $5 \times 9 = \underline{\hspace{2cm}}$

6. $1 \times 5 = \underline{\hspace{2cm}}$

7. $6 \times 5 = \underline{\hspace{2cm}}$

8. $5 \times 2 = \underline{\hspace{2cm}}$

9. $5 \times 8 = \underline{\hspace{2cm}}$

10. $5 \times 6 = \underline{\hspace{2cm}}$

11. $3 \times 5 = \underline{\hspace{2cm}}$

12. $5 \times 1 = \underline{\hspace{2cm}}$

13. $5 \times 7 = \underline{\hspace{2cm}}$

14. $4 \times 5 = \underline{\hspace{2cm}}$

15. $6 \times 5 = \underline{\hspace{2cm}}$

16. $5 \times 3 = \underline{\hspace{2cm}}$

17. $8 \times 5 = \underline{\hspace{2cm}}$

18. $5 \times 8 = \underline{\hspace{2cm}}$

19. $9 \times 5 = \underline{\hspace{2cm}}$

20. $5 \times 7 = \underline{\hspace{2cm}}$

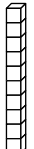
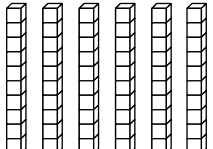
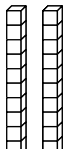
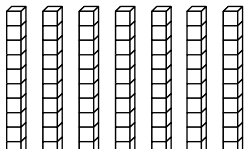
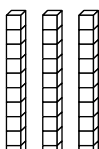
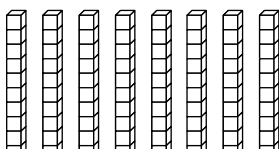
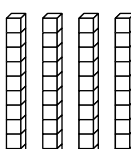
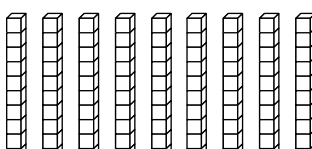
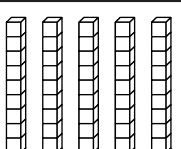
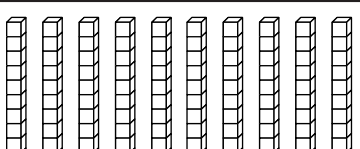
21. $5 \times 9 = \underline{\hspace{2cm}}$

22. $5 \times 4 = \underline{\hspace{2cm}}$

23. $3 \times 5 = \underline{\hspace{2cm}}$

24. $5 \times 5 = \underline{\hspace{2cm}}$

Reteach*Multiply by 10***You can use models to help you multiply by tens.**

	$1 \times 10 = 10$		$6 \times 10 = 60$
	$2 \times 10 = 20$		$7 \times 10 = 70$
	$3 \times 10 = 30$		$8 \times 10 = 80$
	$4 \times 10 = 40$		$9 \times 10 = 90$
	$5 \times 10 = 50$		$10 \times 10 = 100$

Use patterns or models to multiply.

1.
$$\begin{array}{r} 10 \\ \times 2 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 10 \\ \times 8 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 10 \\ \times 4 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 10 \\ \times 9 \\ \hline \end{array}$$

6. $10 \times 3 = \underline{\hspace{2cm}}$

7. $10 \times 1 = \underline{\hspace{2cm}}$

8. $10 \times 7 = \underline{\hspace{2cm}}$

9. $10 \times 10 = \underline{\hspace{2cm}}$

10. $10 \times 6 = \underline{\hspace{2cm}}$

11. $10 \times 5 = \underline{\hspace{2cm}}$

Reteach*Problem-Solving Investigation: Choose a Strategy*

George picked 24 ears of corn for a crab feast dinner. Penny pulled 39 crabs out of the trap to cook. There will be 16 family members having dinner. How many ears of corn are left if each family member eats one ear?

Step 1 Understand	Be sure you understand the problem. What do you know <ul style="list-style-type: none"> • George picked _____ ears of corn. • There are _____ people eating ears of corn. • Penny pulled _____ crabs out to cook. • You need to find out how many _____.
Step 2 Plan <ul style="list-style-type: none"> • Act it out • Draw a picture • Look for a pattern 	Make a plan Choose a strategy. <p>You can draw a picture. Decide what facts you know. Plan what you will do and in what order. Use your plan to solve the problem. Then check your solution to make sure it makes sense.</p>

Reteach*Problem-Solving Investigation (continued)*

Step 3 Solve	Carry out your plan. Plan 1 Cross off the extra information you do not need from the problem. You know that you need to find out how many ears of corn are left. You do not need to know how many crabs Penny is going to cook. ⊗ Plan 2 Find the exact answer. Write a subtraction sentence. $24 - 16 = \underline{\hspace{2cm}}$
Step 4 Check	Is the solution reasonable? Reread the problem. How can you check your answer? _____

Use any strategy shown below to solve. Tell what strategy you used.

PROBLEM-SOLVING STRATEGIES

- Act it out
- Draw a picture
- Look for a pattern

- 1.** Patrick bought 5 books. Each book costs \$5. How much change will he have left from a \$50 bill?

- 2.** Dave caught 7 fish. One fish broke the line and got away. Three fish were too small and he released them. How many fish did he bring home?

Reteach*Multiply by 0 and 1***Multiply.****Using Models****Using Pencil and Paper**

1 group of 4 stars = 4 stars
 $1 \times 4 = 4$

4 groups of 1 star = 4 stars
 $4 \times 1 = 4$

0 groups of 4 stars = 0 stars
 $0 \times 4 = 0$

4 groups of 0 stars = 0 stars
 $4 \times 0 = 0$

Identity Property of Multiplication

The product of a nonzero number and 1 is the number itself.

Zero Property of Multiplication

The product of a number and 0 is 0.

Multiply.

1. $1 \times 0 = \underline{\hspace{2cm}}$

2. $5 \times 1 = \underline{\hspace{2cm}}$

3. $1 \times 8 = \underline{\hspace{2cm}}$

4. $0 \times 3 = \underline{\hspace{2cm}}$

5. $1 \times 7 = \underline{\hspace{2cm}}$

6. $0 \times 5 = \underline{\hspace{2cm}}$

7. $4 \times 0 = \underline{\hspace{2cm}}$

8. $1 \times 4 = \underline{\hspace{2cm}}$

9. $9 \times 0 = \underline{\hspace{2cm}}$

10. $6 \times 1 = \underline{\hspace{2cm}}$

11. $2 \times 1 = \underline{\hspace{2cm}}$

12. $0 \times 9 = \underline{\hspace{2cm}}$

13. $1 \times 6 = \underline{\hspace{2cm}}$

14. $2 \times 0 = \underline{\hspace{2cm}}$

15. $9 \times 1 = \underline{\hspace{2cm}}$

16. $0 \times 6 = \underline{\hspace{2cm}}$

17. $1 \times 2 = \underline{\hspace{2cm}}$

18. $5 \times 0 = \underline{\hspace{2cm}}$

19. $7 \times 1 = \underline{\hspace{2cm}}$

20. $0 \times 8 = \underline{\hspace{2cm}}$

21. $3 \times 1 = \underline{\hspace{2cm}}$

22. $1 \times 1 = \underline{\hspace{2cm}}$

23. $1 \times 9 = \underline{\hspace{2cm}}$

24. $0 \times 4 = \underline{\hspace{2cm}}$

25. $7 \times 0 = \underline{\hspace{2cm}}$

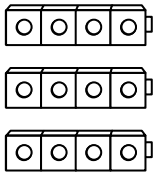
26. $8 \times 1 = \underline{\hspace{2cm}}$

27. $8 \times 0 = \underline{\hspace{2cm}}$

Reteach*Multiply by 3*

There are different ways to find answers for multiplication problems. One way is to use models to represent the problem.

Find 3×4 .

Using Models

3 groups of 4 cubes

Using Paper and Pencil

Number of
Groups

3



factor

\times

Number in Each
Group

4



factor

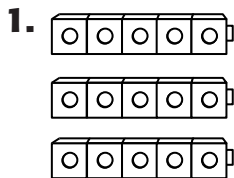
= Total

= 12



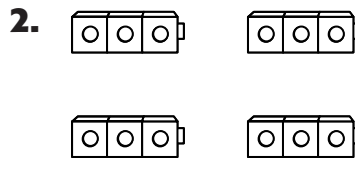
product

Use models or draw a picture to multiply.



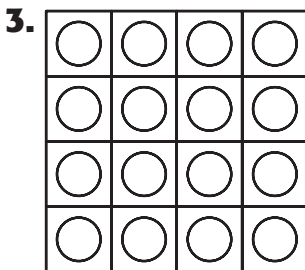
3 groups of 5 = _____

$3 \times 5 =$ _____



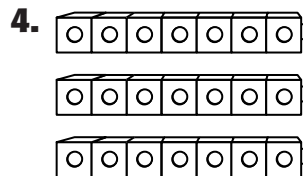
4 groups of 3 = _____

$4 \times 3 =$ _____



4 groups of 4 = _____

$4 \times 4 =$ _____



3 groups of 7 = _____

$3 \times 7 =$ _____

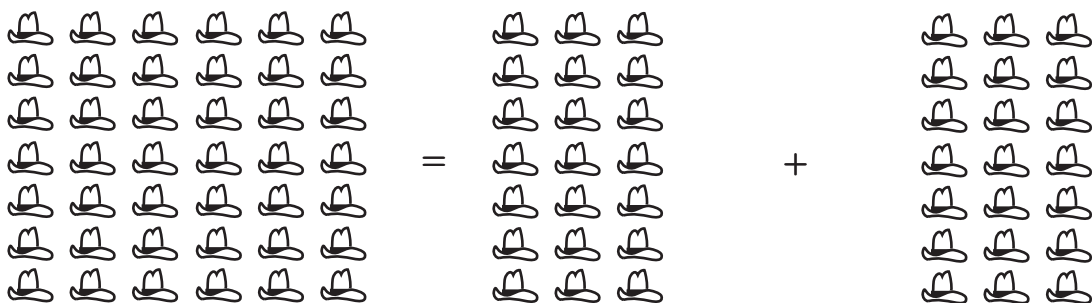
5. $3 \times 6 =$ _____

6. $8 \times 3 =$ _____

Reteach*Multiply by 6*

You can use facts that you already know to help you multiply by 6.

Find 7×6 by doubling 7×3 .



7 groups of 6	=	7 groups of 3	plus	7 groups of 3
7×6	=	7×3	+	7×3
	=	21	+	$21 = 42$

Write a multiplication sentence for the picture.







Multiply.

4. $6 \times 3 =$ _____

5. $6 \times 5 =$ _____

6. $6 \times 6 =$ _____

7. $6 \times 8 =$ _____

8. $6 \times 1 =$ _____

9. $6 \times 2 =$ _____

10. $9 \times 6 =$ _____

11. $6 \times 7 =$ _____

12. $6 \times 4 =$ _____

13. $3 \times 9 =$ _____

14. $3 \times 3 =$ _____

15. $7 \times 3 =$ _____

16. $3 \times 5 =$ _____

17. $3 \times 8 =$ _____

18. $6 \times 3 =$ _____

Reteach*Problem-Solving Strategy: Look for a Pattern*

Liz created a castle with pink towers and blue flags. On the first tower, she has 2 flags. The second tower has 4 flags, and the third tower has 8. If she keeps the pattern up, how many flags are on the fourth tower?

<div><div>Step 1</div><div>Understand</div></div>	<div><div>What do you know?</div><div>There are 2 flags on the first tower.</div><div>There are 4 flags on the second tower.</div><div>There are 8 flags on the third tower.</div><div>What do you need to find out?</div><div>How many flags will be on the fourth tower?</div></div>								
<div><div>Step 2</div><div>Plan</div></div>	<div><div>Organize the data in a table.</div><div>What are your columns? The towers</div><div>What is in the row under each column? The number of flags</div><table><tr><th>Tower 1</th><th>Tower 2</th><th>Tower 3</th><th>Tower 4</th></tr><tr><td>▶▶</td><td>▶▶▶▶</td><td>▶▶▶▶▶▶▶▶</td><td>?</td></tr></table></div>	Tower 1	Tower 2	Tower 3	Tower 4	▶▶	▶▶▶▶	▶▶▶▶▶▶▶▶	?
Tower 1	Tower 2	Tower 3	Tower 4						
▶▶	▶▶▶▶	▶▶▶▶▶▶▶▶	?						
<div><div>Step 3</div><div>Solve</div><div>Think: What is added, subtracted or multiplied?</div></div>	<div><div>What is done to 2 to get 4? 2 was added to get 4 OR 2 was multiplied to get 4.</div><div>What was done to 4 to get 8? 4 was multiplied by 2.</div><div>What was done to both the first and the second number? They were both multiplied by 2.</div><div>Repeat the steps for tower 3 to check your rule. Then repeat for the fourth tower. Multiply 8 by 2. 16 flags will be on the fourth tower.</div></div>								
<div><div>Step 4</div><div>Check</div></div>	<div><div>Look back at your answer.</div><div>Is it reasonable? Why?</div></div>								

Reteach*Problem-Solving Strategy (continued)***Practice by following the steps.**

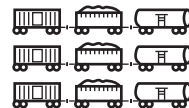
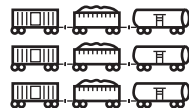
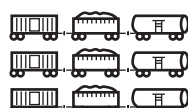
Fred is putting pictures in a scrapbook. He uses a pattern of groups of space and sports pictures. Each group has 1 space picture and 3 sports pictures. If the pattern continues, how many sports pictures will he use in all if there are a total of 24 pictures?

Step 1 Understand	You know: There is 1 space picture in each group. There are 3 sports pictures in each group. You need to find out: How many _____ will be used?																							
Step 2 Plan	Organize the data in a table. What are your columns? The groups. There are 4 pictures in each group and 24 pictures in all. $4 \times \underline{\hspace{2cm}} = 24$. You need _____ columns. What is in the row under each column? The number of space and sports pictures in each group. <table><tr><td>Group 1</td><td>Group 2</td><td>Group 3</td><td>Group 4</td><td>Group 5</td><td>Group 6</td></tr><tr><td>1 space</td><td>1 space</td><td>1 space</td><td>1 space</td><td>1 space</td><td>1 space</td></tr><tr><td>3 sports</td><td>3 sports</td><td>3 sports</td><td>3 sports</td><td>3 sports</td><td>3 sports</td></tr></table>						Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	1 space	1 space	1 space	1 space	1 space	1 space	3 sports	3 sports	3 sports	3 sports	3 sports	3 sports
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6																			
1 space	1 space	1 space	1 space	1 space	1 space																			
3 sports	3 sports	3 sports	3 sports	3 sports	3 sports																			
Step 3 Solve	Look for the pattern. Since the same group repeats, _____ the number of sports pictures by 6.																							
Step 4 Check	Multiply 3 by 6. 6 groups of 3 sports pictures equal _____ sports pictures.																							

Reteach*Multiply by 7*

You can add on to a known fact to find a new fact.

Find 7×3 by finding $(6 \times 3) + (1 \times 3)$.



+



7 groups of 3

=

6 groups of 3

plus 1 group of 3

7×3

=

6×3

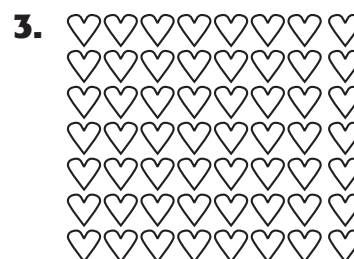
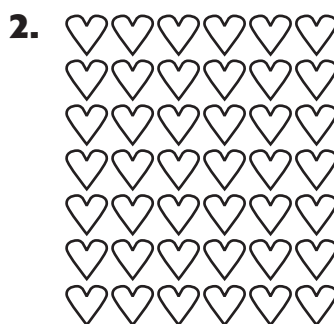
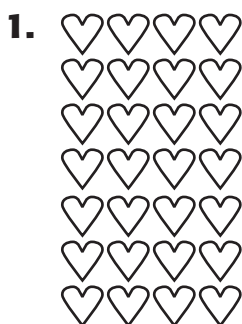
+ 1×3

=

18

+ $3 = 21$

Write a multiplication sentence for the picture.



Use models to multiply.

4. $3 \times 7 =$ _____

5. $5 \times 7 =$ _____

6. $7 \times 7 =$ _____

7. $8 \times 7 =$ _____

8. $7 \times 6 =$ _____

9. $7 \times 9 =$ _____

10. $9 \times 7 =$ _____

11. $4 \times 7 =$ _____

12. $7 \times 1 =$ _____

13. $6 \times 7 =$ _____

14. $3 \times 7 =$ _____

15. $0 \times 7 =$ _____

16. $7 \times 4 =$ _____

17. $1 \times 7 =$ _____

18. $2 \times 7 =$ _____

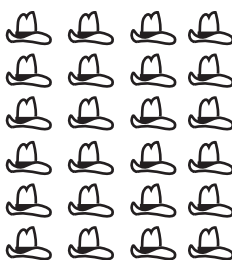
Reteach*Multiply by 8*

You can use facts that you already know to help you multiply by 8.

Find 8×6 by doubling 8×3 .



=



+



6 groups of 8

= 6 groups of 4

plus 6 groups of 4

 6×8 $= 6 \times 4$ + 6×4 $= 24$ + $24 = 48$

Write a multiplication sentence for each picture.

1. ☆☆☆☆☆☆☆



Use models or known facts to multiply.

3. $2 \times 8 =$ _____

4. $0 \times 8 =$ _____

5. $8 \times 5 =$ _____

6. $8 \times 6 =$ _____

7. $8 \times 1 =$ _____

8. $8 \times 7 =$ _____

9. $5 \times 8 =$ _____

10. $8 \times 4 =$ _____

11. $3 \times 8 =$ _____

12. $8 \times 8 =$ _____

13. $6 \times 8 =$ _____

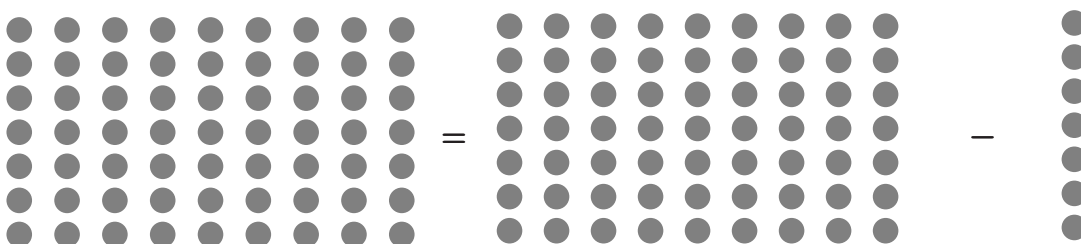
14. $9 \times 8 =$ _____

Reteach*Multiply by 9*

Here is a strategy you can use when multiplying by 9.

You can multiply the number by 10 and then subtract the number to find a new fact.

Find 9×7 .



9 groups of 7

$$9 \times 7$$

= 10 groups of 7

$$= 10 \times 7$$

$$= 70$$

minus 1 groups of 7

$$- 1 \times 7$$

$$- 7 = 63$$

Use models or patterns to multiply.

1.
$$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

7. $9 \times 2 = \underline{\hspace{2cm}}$

8. $5 \times 9 = \underline{\hspace{2cm}}$

9. $9 \times 4 = \underline{\hspace{2cm}}$

10. $6 \times 9 = \underline{\hspace{2cm}}$

11. $9 \times 3 = \underline{\hspace{2cm}}$

12. $9 \times 1 = \underline{\hspace{2cm}}$

13. $9 \times 9 = \underline{\hspace{2cm}}$

14. $9 \times 0 = \underline{\hspace{2cm}}$

15. $9 \times 8 = \underline{\hspace{2cm}}$

16. $2 \times 9 = \underline{\hspace{2cm}}$

17. $8 \times 9 = \underline{\hspace{2cm}}$

18. $3 \times 9 = \underline{\hspace{2cm}}$

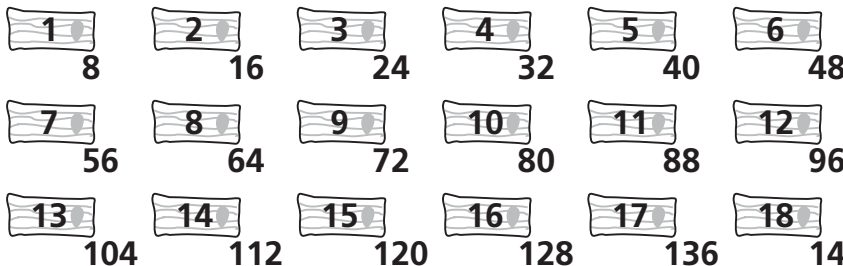
Reteach*Problem-Solving Investigation: Choose a Strategy*

If Juan cuts a 144-inch-long piece of wood into 8-inch pieces, how many pieces will he have?

<p>Step 1 Understand</p>	<p>Be sure you understand the problem.</p> <p>What facts do you know?</p> <ul style="list-style-type: none"> • A piece of wood is _____ inches long. • The wood will be cut into _____ inch pieces. <p>What do you need to find?</p> <ul style="list-style-type: none"> • You need to find how many _____
<p>Step 2 Plan</p> <ul style="list-style-type: none"> • Logical reasoning • Draw a picture or diagram • Make a graph • Act it out • Make a table or list • Find a pattern • Guess and check • Write an equation • Work backward • Solve a simpler problem 	<p>Make a plan.</p> <p>Choose a strategy.</p> <p>You may draw a diagram. Show a piece of wood that is 144 inches long. Count by 8s to see how many 8-inch pieces will fit.</p> <p>You can also write a number sentence (an equation). Each piece of wood is the same length. Use division to find how many 8-inch pieces of wood will fit.</p>

Reteach

Problem-Solving Investigation (continued)

<p>Step 3</p> <p>Solve</p>	<div style="display: flex; justify-content: space-between;"> <div style="width: 25%;"> <p>Plan 1</p> <p>Plan 2</p> </div> <div style="width: 75%;"> <p>Carry out your plan.</p> <p>Draw a diagram. Count up groups of 8</p>  <p>Count. There are _____ pieces of wood in all.</p> <p>Write a division sentence. _____ ÷ _____ = _____</p> <p>He will have _____ pieces of wood.</p> </div> </div>
<p>Step 4</p> <p>Check</p>	<p>Is the solution reasonable?</p> <p>Reread the problem.</p> <p>How can you check your answer?</p> <hr/>

Solve.

1. Jim has 5 packs of cards. There are 15 cards in each pack. He gives all of the cards to 3 boys. Each boy gets the same number of cards. How many cards does each boy receive?
2. Winnie has a piece of fabric that is 60 inches long. She cuts it into 6 equal pieces. How many inches long is each piece?

Reteach*Multiply by 11 and 12*

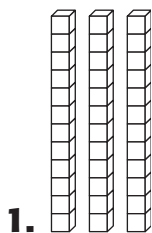
You can use facts and strategies you already know to help you multiply by 11 and 12.

Find 11×4 by adding 10×4 and 1×4 .

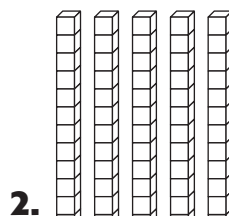


You know that $10 \times 4 = 40$, and $1 \times 4 = 4$. When you add the sums together, you see that $11 \times 4 = 44$.

Use models or patterns to multiply.



$$12 \times 3 = \underline{\hspace{2cm}}$$



$$11 \times 5 = \underline{\hspace{2cm}}$$

3. $6 \times 11 = \underline{\hspace{2cm}}$

4. $4 \times 12 = \underline{\hspace{2cm}}$

5. $11 \times 11 = \underline{\hspace{2cm}}$

6. $2 \times 12 = \underline{\hspace{2cm}}$

7. $7 \times 11 = \underline{\hspace{2cm}}$

8. $3 \times 12 = \underline{\hspace{2cm}}$

9. $2 \times 11 = \underline{\hspace{2cm}}$

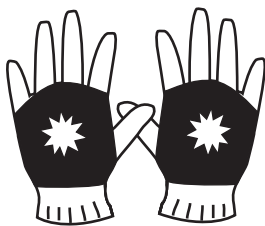
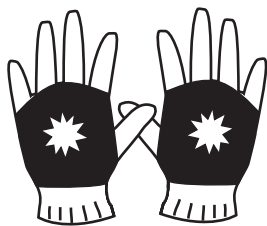
10. $6 \times 12 = \underline{\hspace{2cm}}$

11. $3 \times 11 = \underline{\hspace{2cm}}$

Reteach*Algebra: Associative Property*

You can use the properties of multiplication to multiply 3 numbers.

Find $3 \times 2 \times 5$.


The Commutative Property of Multiplication

When multiplying, the order of the factors does not change the product.

$3 \times 2 \times 5 = 30$ You can use the
 $2 \times 5 \times 3 = 30$ Commutative
 $5 \times 2 \times 3 = 30$ Property to
 switch the order
 of the numbers
 3, 2, and 5.

The Associative Property of Multiplication

When multiplying, the grouping of the factors does not change the product.

$3 \times 2 \times 5 = 30$ You can use
 $3 \times (2 \times 5) = 30$ the Associative
 $3 \times (5 \times 2) = 30$ Property to
 group two
 factors.

Find each product.

- | | | |
|------------------------------------|------------------------------------|-----------------------------------|
| 1. $5 \times 3 \times 2 =$ _____ | 2. $2 \times 2 \times 6 =$ _____ | 3. $7 \times 4 \times 1 =$ _____ |
| 4. $3 \times 2 \times 3 =$ _____ | 5. $5 \times 6 \times 2 =$ _____ | 6. $7 \times 8 \times 0 =$ _____ |
| 7. $2 \times 7 \times 2 =$ _____ | 8. $3 \times 6 \times 2 =$ _____ | 9. $8 \times 7 \times 1 =$ _____ |
| 10. $3 \times 4 \times 2 =$ _____ | 11. $6 \times 3 \times 3 =$ _____ | 12. $6 \times 2 \times 3 =$ _____ |
| 13. $8 \times 12 \times 0 =$ _____ | 14. $8 \times 12 \times 0 =$ _____ | 15. $9 \times 2 \times 5 =$ _____ |

Find each missing number.

- | | |
|--------------------------------------|------------------------------------|
| 16. $5 \times 2 \times$ _____ $= 80$ | 17. _____ $\times 2 \times 6 = 24$ |
| 18. $1 \times 11 \times 3 =$ _____ | 19. _____ $\times 2 \times 5 = 20$ |

Reteach*Relate Division to Subtraction*

Cal put 18 astronaut collector's cards in a scrapbook. He put 6 cards on each page. How many pages did Cal use?

Find $18 \div 6$.

You can use repeated subtraction.

$$\begin{array}{r} 18 \\ - 6 \\ \hline 12 \\ - 6 \\ \hline 6 \\ - 6 \\ \hline 0 \end{array}$$

Keep subtracting the same number until there is nothing left.

Since the 6 was subtracted 3 times,
 $18 \div 6 = 3$.

Use repeated subtraction to divide.

1. $12 \div 4 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 12 \\ - 4 \\ \hline \square \\ - 4 \\ \hline \square \\ - 4 \\ \hline \square \end{array}$$

2. $20 \div 5 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 20 \\ - 5 \\ \hline \square \\ - 5 \\ \hline \square \\ - 5 \\ \hline \square \\ - 5 \\ \hline \square \end{array}$$

3. $21 \div 7 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 21 \\ - 7 \\ \hline \square \\ - 7 \\ \hline \square \\ - 7 \\ \hline \square \end{array}$$

Write how many times you need to subtract.

4. $8 \div 2 = \underline{\hspace{2cm}}$

5. $6 \div 3 = \underline{\hspace{2cm}}$

6. $10 \div 5 = \underline{\hspace{2cm}}$

7. $12 \div 6 = \underline{\hspace{2cm}}$

Use repeated subtraction on a number line or paper and pencil to divide.

8. $18 \div 3 = \underline{\hspace{2cm}}$

9. $24 \div 6 = \underline{\hspace{2cm}}$

10. $28 \div 7 = \underline{\hspace{2cm}}$

11. $30 \div 6 = \underline{\hspace{2cm}}$

12. $8 \div 8 = \underline{\hspace{2cm}}$

13. $18 \div 3 = \underline{\hspace{2cm}}$

Reteach*Relate Division to Multiplication*

2 groups

4 in each group

8 in all



8 in all

2 groups

4 in each group

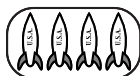
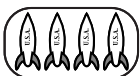
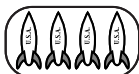
Number of groups		Number in each group		Number in all		Number in all		Number of groups		Number in each group
2	×	4	=	8		8	÷	2	=	4

Use the array to complete each number sentence.

1. 3 groups

4 in each group

_____ in all

 $3 \times 4 = \underline{\hspace{2cm}}$ 

12 in all

3 groups

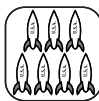
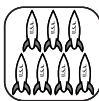
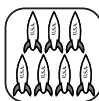
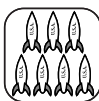
_____ in each group

 $12 \div 3 = \underline{\hspace{2cm}}$

2. _____ groups

_____ in each group

_____ in all

_____ \times _____ = _____

_____ in all

_____ groups

_____ in each group

_____ \div _____ = _____

3.

_____ \times _____ = __________ \div _____ = _____

4.

_____ \times _____ = __________ \div _____ = _____

Reteach*Problem-Solving Skill: Choose an Operation***Choose an operation.**

Sabrina's class uses 24 rubber balls to make models of the planets in our solar system. There are 8 groups of students. Each group gets the same number of rubber balls. How many rubber balls does each group get?

Step 1 Understand	Make sure you understand the problem. What do you need to find? You need to find how many groups of _____ there are in _____.
Step 2 Plan	Choose the operation. You can use division. You can separate the rubber balls into equal groups.
Step 3 Solve	Carry out your plan. Write a division sentence. _____ ÷ _____ = _____
Step 4 Check	Check your answer. You can use repeated subtraction.

Solve. Use the *choose an operation* strategy.**Name the operation you choose.**

- Three friends make a model of a space station. They spend \$21 on supplies and split the cost equally. How much does each friend spend?
- There are 32 people in line for the planetarium. There are only 8 tickets left. How many people will not get tickets?

Reteach*Problem-Solving Skill (continued)*

Solve. Use the *choose an operation* strategy.

Name the operation you choose.

- 3.** 12 friends are split into 3 groups of the same size. How many are in each group?

- 4.** Jordan's class has 32 students. He wants to make enough brownies for each student to have two brownies each. If Jordan's baking pan will make 16 brownies at a time, how many batches of brownies will he have to make?

- 5.** Jerome and Katie have collected 7 seashells each. How many do they have in all?

- 6.** If Dennis needs to collect 40 bottle caps in 5 days to win a prize, how many must he collect each day?

- 7.** Mrs. Davis brought in 24 bananas to split evenly among the after-school art club. There are 8 people in the group including Mrs. Davis. How many bananas can they each eat?

- 8.** A family of five purchased tickets to a play. If the total cost of the tickets was \$60, how much did each ticket cost?

Reteach*Divide by 2*

You have 10 counters. How many groups of 2 can you make?

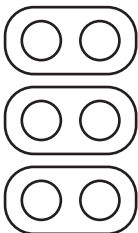


Think: 5 groups of 2 counters or $5 \times 2 = 10$

You can write $10 \div 2 = 5$, or $2 \overline{)10}^5$.

Complete.

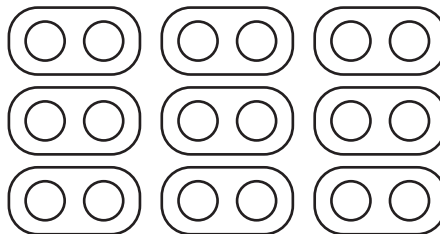
1.



$$3 \times 2 = \underline{\hspace{2cm}}$$

$$6 \div 2 = \underline{\hspace{2cm}}$$

2.



$$9 \times 2 = \underline{\hspace{2cm}}$$

$$18 \div 2 = \underline{\hspace{2cm}}$$

Divide. Write a related multiplication fact.

3. $16 \div 2 = \underline{\hspace{2cm}}$

5. $8 \div 2 = \underline{\hspace{2cm}}$

7. $12 \div 2 = \underline{\hspace{2cm}}$


4. $14 \div 2 = \underline{\hspace{2cm}}$

6. $6 \div 2 = \underline{\hspace{2cm}}$

8. $4 \div 2 = \underline{\hspace{2cm}}$

Reteach*Divide by 5*

Think of a related multiplication fact to divide by 5.

4 space shuttles 5 astronauts on each shuttle 20 astronauts in all						20 astronauts in all 5 astronauts on each shuttle 4 space shuttles		
Number of groups		Number in each group	Number in all		Number in all	Number in each group	Number of groups	
4	×	5	=	20	20	÷	5	= 4

Use models or related facts to divide.

1.



$$15 \div 5 = \underline{\quad}$$

2.



$$10 \div 5 = \underline{\quad}$$

3.



$$5 \div 5 = \underline{\quad}$$

4.



$$25 \div 5 = \underline{\quad}$$

5. $30 \div 5 = \underline{\quad}$

6. $35 \div 5 = \underline{\quad}$

7. $20 \div 5 = \underline{\quad}$

8. $5 \overline{)25}$

9. $5 \overline{)45}$

10. $5 \overline{)40}$

11. $5 \overline{)35}$

12. $5 \overline{)20}$

Reteach*Problem-Solving Investigation: Choose a Strategy*

Chaz is putting away his books. He has 5 mysteries, 6 novels, 3 picture books, and 2 dictionaries. He wants to put the same number of books on each shelf. His book case has 4 shelves. How many books should Chaz put on each shelf?

Step 1 Understand	<p>You know: Chaz has 5 mysteries, 6 novels, 3 picture books, and 2 dictionaries. He wants to put away the same number on each of 4 shelves.</p> <p>You need to find out: How many books Chaz should put on each shelf.</p>																
Step 2 Plan	You need to look at how to arrange items. So, the <i>draw a picture</i> strategy is a good choice.																
Step 3 Solve	<p>Draw a book case with 4 shelves. Write a letter to represent each kind of book. Fill the shelves until all the letters are used up. Count the number of books on each shelf.</p> <table><tr><td>M</td><td>M</td><td>N</td><td>P</td></tr><tr><td>M</td><td>N</td><td>N</td><td>P</td></tr><tr><td>M</td><td>N</td><td>N</td><td>D</td></tr><tr><td>M</td><td>N</td><td>P</td><td>D</td></tr></table>	M	M	N	P	M	N	N	P	M	N	N	D	M	N	P	D
M	M	N	P														
M	N	N	P														
M	N	N	D														
M	N	P	D														
Step 4 Check	Look back at the problem. The total number of books is 16. Since $16 \div 4 = 4$, you know the answer is correct.																

Reteach*Problem-Solving Investigation (continued)*

Use any strategy shown below to solve. Tell what strategy you used.

- | | | |
|--------------|------------------|----------------------|
| • Act it out | • Draw a picture | • Look for a pattern |
|--------------|------------------|----------------------|

1. There are 25 people riding on a bus. If there were 5 stops and an equal number of people got on at each stop, how many people got on the bus at each stop?

2. If 6 people got on the bus at each stop for 3 stops, how many people in all are on the bus?

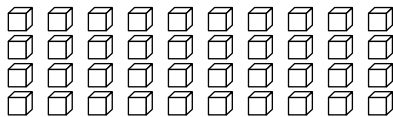
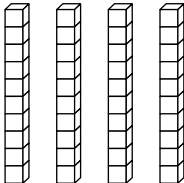
3. The first bus of the day brought 25 people to their destinations. The second bus of the day brought 18 people to their destinations. How many more people rode on the first bus than the second bus?

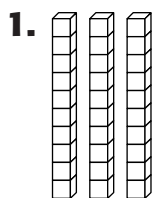
4. 14 children played the first game, 10 children played the second game, and 6 played the third. If this pattern continues, how many children played the fourth game?

5. Jan taught everyone the bunny hop dance. She said you take 3 hops forward, 4 hops back, 3 hops to the right, and 2 hops to the left. Lynne and Heather tried it out. If Lynne and Heather both did the dance, how many total hops did the two girls take?

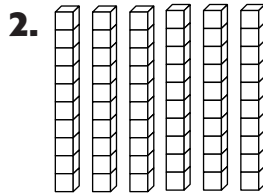
Reteach*Divide by 10*

Find $40 \div 10$. You can use models to divide.

Show 40 ones using models.	Count the number of groups of ten.	
		There are 4 groups of 10 in 40. So, $40 \div 10 = 4$.

Use models to divide.

$$30 \div 10 = \underline{\quad}$$



$$70 \div 10 = \underline{\quad}$$

3. $20 \div 10 = \underline{\quad}$

4. $40 \div 10 = \underline{\quad}$

5. $60 \div 10 = \underline{\quad}$

6. $90 \div 10 = \underline{\quad}$

7. $70 \div 10 = \underline{\quad}$

8. $80 \div 10 = \underline{\quad}$

9. $50 \div 10 = \underline{\quad}$

10. $10 \div 10 = \underline{\quad}$

11. $30 \div 10 = \underline{\quad}$

12. $10 \overline{)10}$

13. $10 \overline{)30}$

14. $10 \overline{)20}$

15. $10 \overline{)60}$

16. $10 \overline{)80}$

17. $10 \overline{)40}$

18. $10 \overline{)90}$

19. $10 \overline{)70}$

20. $10 \overline{)50}$

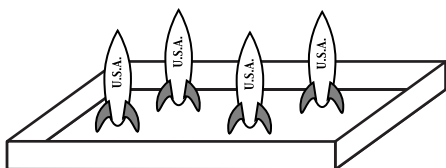
21. $10 \overline{)0}$

Reteach*Divide by 0 and 1*

<p>When you divide any number (except 0) by itself, the quotient is 1.</p> <p>Kelly has 5 model rockets in 5 different boxes. How many model rockets are in each box?</p> <p>$5 \div 5 = 1$</p> <p>There is 1 rocket in each box.</p>	<p>When you divide any number by 1, the quotient is the original number.</p> <p>Kelly wants to put 1 model rocket on each shelf. She has 5 model rockets.</p> <p>How many shelves does she need?</p> <p>$5 \div 1 = 5$</p> <p>She needs 5 shelves.</p>	<p>When you divide 0 by any number (except 0), the quotient is 0.</p> <p>Kelly has 3 boxes and no model rockets. How many rockets are in each box?</p> <p>$0 \div 3 = 0$</p> <p>There are no rockets in any of the boxes.</p> <p><i>Remember: You cannot divide a number by 0.</i></p>
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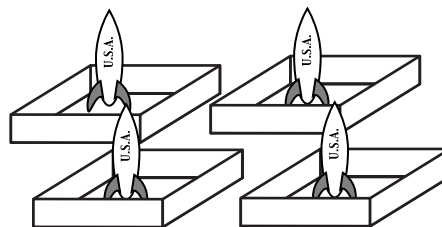
Use models to divide.

1.



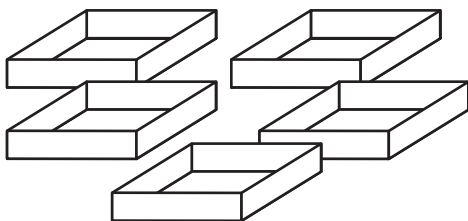
$$4 \div 1 = \underline{\quad}$$

2.



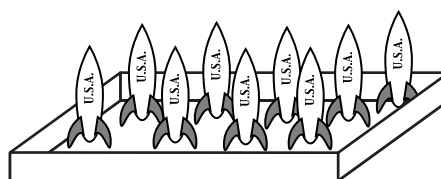
$$4 \div 4 = \underline{\quad}$$

3.



$$0 \div 5 = \underline{\quad}$$

4.



$$9 \div 1 = \underline{\quad}$$

5. $3 \div 1 = \underline{\quad}$

6. $6 \div 6 = \underline{\quad}$

7. $0 \div 8 = \underline{\quad}$

8. $7 \div 7 = \underline{\quad}$

9. $6 \div 1 = \underline{\quad}$

10. $0 \div 3 = \underline{\quad}$

Reteach*Divide by 3*

You can use models to divide.

Find $18 \div 3$.

There are 18 stars in all. Make 3 groups with 6 stars in each group.

$$18 \div 3 = 6$$



Use models or related facts to divide.

1. $12 \div 3 = \underline{\quad}$



$$12 \div 3 = \underline{\quad}$$

2. $15 \div 3 = \underline{\quad}$



$$15 \div 3 = \underline{\quad}$$

3. $24 \div 3 = \underline{\quad}$



$$24 \div 3 = \underline{\quad}$$

4. $9 \div 3 = \underline{\quad}$



$$9 \div 3 = \underline{\quad}$$

5. $27 \div 3 = \underline{\quad}$



$$27 \div 3 = \underline{\quad}$$

6. $3 \div 3 = \underline{\quad}$



$$3 \div 3 = \underline{\quad}$$

7. $21 \div 3 = \underline{\quad}$

8. $15 \div 3 = \underline{\quad}$

9. $24 \div 3 = \underline{\quad}$

10. $6 \div 3 = \underline{\quad}$

11. $27 \div 3 = \underline{\quad}$

12. $3 \div 3 = \underline{\quad}$

13. $3 \overline{)18}$

14. $3 \overline{)21}$

15. $3 \overline{)12}$

16. $3 \overline{)27}$

17. $3 \overline{)24}$

Reteach*Divide by 4*

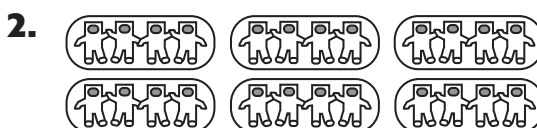
To divide the total number of objects, you make equal groups.
There are 20 astronauts. Divide the number of astronauts by 4.
To divide by 4, make equal groups of 4.



$20 \div 4 = 5$

Use models or related facts to divide.

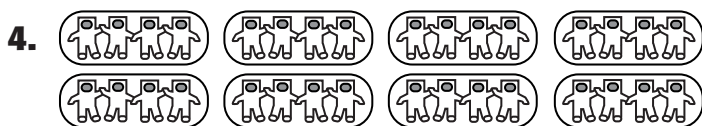
$12 \div 4 = \underline{\hspace{2cm}}$



$24 \div 4 = \underline{\hspace{2cm}}$



$16 \div 4 = \underline{\hspace{2cm}}$



$32 \div 4 = \underline{\hspace{2cm}}$

5. $8 \div 4 = \underline{\hspace{2cm}}$

6. $16 \div 4 = \underline{\hspace{2cm}}$

7. $12 \div 4 = \underline{\hspace{2cm}}$

8. $28 \div 4 = \underline{\hspace{2cm}}$

9. $36 \div 4 = \underline{\hspace{2cm}}$

10. $4 \div 4 = \underline{\hspace{2cm}}$

11. $4 \overline{)24}$

12. $4 \overline{)28}$

13. $4 \overline{)16}$

14. $4 \overline{)36}$

15. $4 \overline{)32}$

16. $4 \overline{)4}$

17. $4 \overline{)20}$

18. $4 \overline{)8}$

19. $4 \overline{)40}$

20. $4 \overline{)12}$

Reteach*Problem-Solving Strategy: Make a Table*

Which day had the most sign-ups?

Sign Up: After-School Games

Day	Names						
Monday	Jim Ron	Barry Tiffany	Chris Josh	Seth Donna	Eli Bryan	Taylor	
Tuesday	Ann Aiko	Steve Warren	Tara Ian	Pete Craig	Lily Sereka		
Wednesday	Tod	Bailey	Carly	Sudi	Donna	Jani	Beth

Step 1 Understand	Be sure you understand the problem. Read carefully. What do you know? <ul style="list-style-type: none"> • There are _____ days for after-school games. • There is a list of _____ for each day. What do you need to find out? <ul style="list-style-type: none"> • You need to find out which day had _____ • To do this, you need to know _____ sign-ups there were each day.
Step 2 Plan	Make a plan. A table can help you organize what you know. Make a table to solve the problem.

Reteach*Problem-Solving Strategy: Make a Table (continued)***Step 3**
Solve**Carry out your plan.**

Make a table.

Tally the _____ for each day. Write the total number of tallies for each day. Compare the _____ for each day.

Complete the table.

Sign-Up: After-School Games		
Day	Tally	Number
Monday		
Tuesday		10
Wednesday		

There are _____ sign-ups for Monday, _____ sign-ups for Tuesday, and _____ sign-ups for Wednesday.

_____ had the most sign-ups.

Step 4
Check**Is the solution reasonable?**

Reread the problem.

Does your answer match the data given in the problem? _____

What other strategy could you use to solve the problem?
_____**Solve. Use the *make a table* strategy.**

1. Donna is making a sign that says "Greetings, Chess Masters!" Which letter does she use the most?
- _____

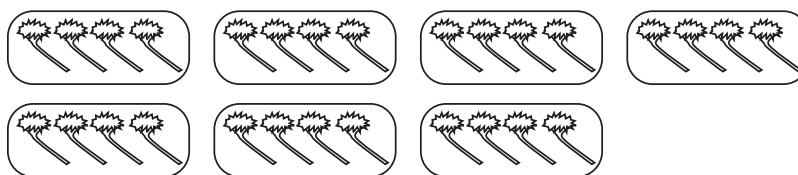
2. Four friends were in a tournament. Judy came in sixth, Sam was ninth, Tim was third, Evelyn was fifth. In what order did the friends finish?
- _____

Reteach*Divide by 6 and 7***You can make groups to help you divide.**

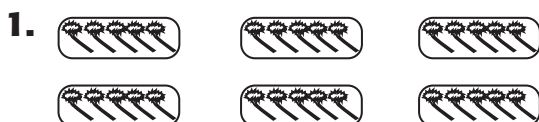
Suppose you have 28 wildflowers.

You want to make 7 groups of wildflowers.

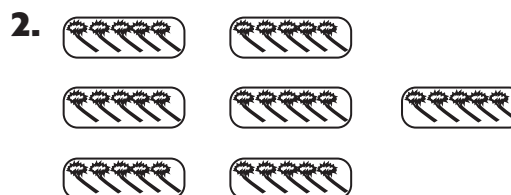
How many wildflowers will you have in each group?



Number in All	Number of Groups	Number in Each Group
28	7	4

So, $28 \div 7 = 4$.**Complete the division sentence for each picture.**

$30 \div 6 = \underline{\hspace{2cm}}$



$35 \div 7 = \underline{\hspace{2cm}}$

Use models or repeated subtraction to divide.

3. $54 \div 6 = \underline{\hspace{2cm}}$

4. $48 \div 6 = \underline{\hspace{2cm}}$

5. $56 \div 7 = \underline{\hspace{2cm}}$

6. $42 \div 6 = \underline{\hspace{2cm}}$

7. $28 \div 7 = \underline{\hspace{2cm}}$

8. $18 \div 3 = \underline{\hspace{2cm}}$

9. $30 \div 6 = \underline{\hspace{2cm}}$

10. $12 \div 6 = \underline{\hspace{2cm}}$

11. $42 \div 7 = \underline{\hspace{2cm}}$

12. $6 \overline{)24}$

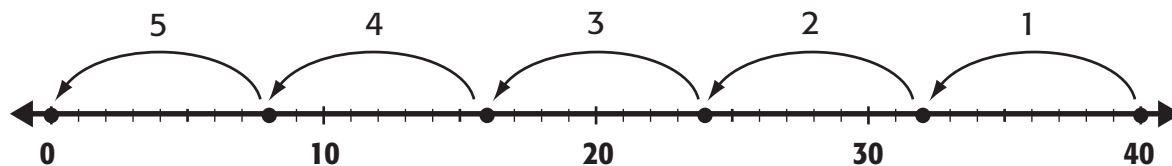
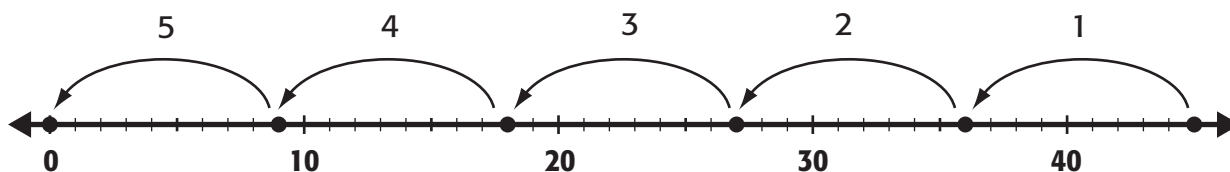
13. $7 \overline{)21}$

14. $7 \overline{)63}$

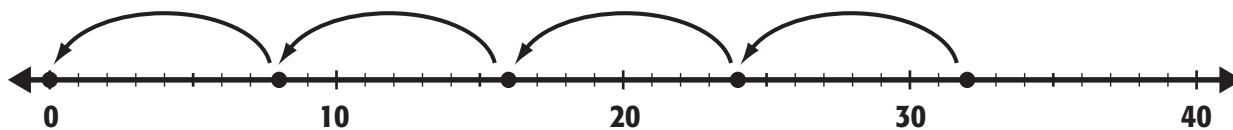
15. $7 \overline{)35}$

16. $6 \overline{)36}$

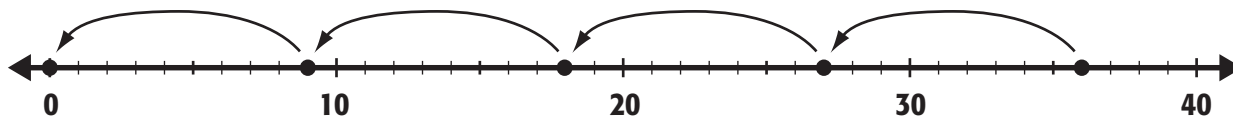
17. $7 \overline{)49}$

Reteach*Divide by 8 and 9*Find $40 \div 8$.Skip count to divide. Make 5 jumps of 8. So, $40 \div 8 = 5$.Find $45 \div 9$. You make jumps of 9 each time.**Skip count on the number line to find the answer.****Draw arrows on the number line to show your work.****Then complete the number sentence.**

1. $32 \div 8 = \underline{\hspace{2cm}}$



2. $36 \div 9 = \underline{\hspace{2cm}}$

**Use related facts or repeated subtraction to divide.**

3. $48 \div 8 = \underline{\hspace{2cm}}$

4. $27 \div 9 = \underline{\hspace{2cm}}$

5. $56 \div 8 = \underline{\hspace{2cm}}$

6. $54 \div 9 = \underline{\hspace{2cm}}$

7. $81 \div 9 = \underline{\hspace{2cm}}$

8. $9 \div 9 = \underline{\hspace{2cm}}$

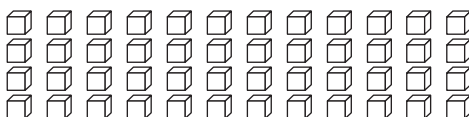
9. $72 \div 8 = \underline{\hspace{2cm}}$

10. $63 \div 9 = \underline{\hspace{2cm}}$

11. $45 \div 9 = \underline{\hspace{2cm}}$

Reteach*Divide by 11 and 12***You can use models to divide.**Find $48 \div 12$.

Show 48 ones using models.



Count the number of groups of 12.

There are 4 groups of 12 in 48. So, $48 \div 12 = 4$.**Use models to divide.**

$36 \div 12 = \underline{\hspace{2cm}}$

2. $66 \div 11 = \underline{\hspace{2cm}}$

3. $60 \div 12 = \underline{\hspace{2cm}}$

4. $11 \div 11 = \underline{\hspace{2cm}}$

5. $24 \div 12 = \underline{\hspace{2cm}}$

6. $88 \div 11 = \underline{\hspace{2cm}}$

7. $96 \div 12 = \underline{\hspace{2cm}}$

8. $22 \div 11 = \underline{\hspace{2cm}}$

9. $72 \div 12 = \underline{\hspace{2cm}}$

10. $77 \div 11 = \underline{\hspace{2cm}}$

11. $11 \overline{)99}$

12. $11 \overline{)44}$

13. $11 \overline{)66}$

14. $11 \overline{)110}$

15. $12 \overline{)48}$

16. $12 \overline{)120}$

17. $12 \overline{)144}$

18. $12 \overline{)84}$

19. $11 \overline{)33}$

20. $12 \overline{)108}$

21. $11 \overline{)121}$

22. $12 \overline{)72}$

Reteach*Problem-Solving Investigation: Choose a Strategy*

Alicia wants to mail 12 letters and 5 postcards but she needs stamps. A page of 6 stamps to mail letters costs \$2, and a page of 5 stamps to mail postcards costs \$1. Alicia has a \$10-bill. How much change will she get after paying for the stamps?

Step 1 Understand	<p>What do you know? You know that Alicia has 12 letters and 5 postcards to mail. You know she needs to buy stamps. You also know that it costs \$2 for 6 letter stamps and \$1 for 5 postcard stamps. Alicia will pay with a \$10-bill.</p> <p>What do you need to find? How much change Alicia will get after paying for the stamps.</p>						
Step 2 Plan	<p>Choose a strategy.</p> <p>Making a table will help organize the facts. The table will have two columns, one for letter stamps and one for postcard stamps. The cost will be listed in the rows.</p> <p>Then, total the cost and subtract it from \$10 to find the amount Alicia will get back in change.</p>						
Step 3 Solve	<table border="1" data-bbox="443 1297 1003 1444"> <tr> <th>Letter Stamps</th><th>Postcard Stamps</th></tr> <tr> <td>\$2 for 6</td><td>\$1 for 5</td></tr> <tr> <td>\$2 for 6</td><td></td></tr> </table> <p>Total: \$4 for 12 letter stamps + \$1 for 5 postcard stamps = \$5</p> <p>$\\$10 - \\$5 = \\5</p> <p>So, Alicia will get \$5 in change.</p>	Letter Stamps	Postcard Stamps	\$2 for 6	\$1 for 5	\$2 for 6	
Letter Stamps	Postcard Stamps						
\$2 for 6	\$1 for 5						
\$2 for 6							

Reteach*Problem-Solving Investigation: Choose a Strategy*
(continued)

Step 4 Check	<p>Look back at your answer. Does it make sense?</p> <p>Use division to check.</p> <p>Alicia will need 2 pages of letter stamps because $12 \div 6 = 2$. She will need 1 page of postcard stamps because $5 \div 1 = 5$.</p> <p>The cost for 2 pages of letter stamps and 1 page of postcard stamps is $\\$2 + \\$2 + \\$1 = \\5. The change for \$5 from \$10 is \$5.</p> <p>So, the answer is correct.</p>
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Use any strategy shown below to solve. Tell what strategy you used.

- Act it out
- Draw a picture
- Look for a pattern
- Make a table

1. What is the next number in the pattern?

53, 58, 63, 68, _____.

2. Margie and Jill have 35 bottles of juice. Margie drinks 2 bottles a day, and Jill drinks 3.

How many days will the juice last?

3. Juan planted 20 seeds. For every 5 seeds he planted, 4 grew into plants. How many plants did Juan have?

Reteach*Model and Write Number Sentences*

A number sentence contains an equal sign. The equal sign separates numbers.

One way to show a number sentence is to model it. To model something is to explain something by using pictures and words.

Example

There are 6 bottles and 5 are clear. How many bottles are not clear?

Pictures**Words**

After subtracting 5 bottles from 6 bottles there is 1 bottle left.

Number Sentence

$$6 - 5 = 1$$

So, $6 - 5 = 1$ shows the number of bottles that are not clear.

Model each problem. Use a number sentence.

1. 62 kids ride the bus in the morning. 60 kids ride the bus in the afternoon. How many kids ride the bus in one day?

2. Jose ate 12 almonds, 7 peanuts, 20 pecans, and 3 cashews.
How many total nuts did he eat? _____

Model each number sentence. Use pictures and words.

3. $7 + 3 = \underline{\quad}$

4. $9 + 3 + 14 = \underline{\quad}$

5. $17 + 2 + 4 = \underline{\quad}$

6. $27 - \underline{\quad} = 22$

Reteach*Expressions and Number Sentences*

An **expression** uses numbers and symbols to make a math statement. Here are some examples of expressions:

$$6 + 8 \quad 5 - 2 + 10 \quad 12 - 5$$

A **number sentence** uses an equals sign to show that two expressions are equal. Here are some examples of true number sentences:

$$7 + 8 = 15 \quad 5 + 2 + 1 = 8 \quad 15 - 5 = 10$$

Write an expression and a number sentence for each problem. Use models if needed.

1. A Douglas fir tree is 100 meters tall. A Ponderosa pine tree is 68 meters tall. How much taller is the Douglas fir than the Ponderosa pine?

What is the expression?

What is the number sentence?

The Douglas fir is _____ meters taller than the Ponderosa pine.

2. Tony's Garden Supplies sells \$525 worth of plants. The store also sells \$234 worth of supplies. How much money does the store make in all?

3. A tree farm has 248 balsam fir trees and 96 Douglas fir trees. How many more balsam firs are there than Douglas firs?

Reteach*Problem-Solving Strategy: Act It Out*

Coach Betty wants 11 liters of water in a cooler. She has a 5-liter bottle and an 8-liter bottle. How can she use them to measure exactly 11 liters?

<p>Step 1 Understand</p>	<p>Be sure you understand the problem. Read carefully.</p> <p>What do you know?</p> <ul style="list-style-type: none"> • Coach Betty wants _____ liters of water in a cooler. • Coach Betty has bottles that hold _____ liters and _____ liters. <p>What do you need to know?</p> <ul style="list-style-type: none"> • You need to find how to use the bottles to measure _____.
<p>Step 2 Plan</p> <ul style="list-style-type: none"> • Logical reasoning • Draw a picture or diagram • Make a graph • Act it out • Solve a simpler problem 	<p>Make a plan.</p> <p>Choose a strategy.</p> <p>Use the <i>act it out</i> strategy to solve the problem.</p> <p>You can use the difference of the amount of water in the bottles to measure exactly 11 liters.</p>

Reteach*Problem-Solving Strategy: Act It Out (continued)*

Step 3 Solve	Carry out your plan. Follow the steps. Steps <ul style="list-style-type: none"> • Fill the 8-L bottle. • Fill the 5-L bottle from the 8-L bottle. • Pour what is left in the 8-L bottle into the cooler. • Refill the 8-L bottle • Pour the water from the 8-L bottle into the cooler. • Add. $8 + 3 = \underline{\hspace{2cm}}$. There are $\underline{\hspace{2cm}}$ liters in the water cooler.
Step 4 Check	Is the solution reasonable? Reread the problem. How can you check your answers? <hr/>

Solve. Use the *act it out* strategy.

1. Ed has a 6-oz cup and an 8-oz cup. How can he use the cups to measure 10 ounces of water?

2. Cathy, Ted, and Ella eat lunch. One has a ham sandwich, one has a tuna sandwich, and one has a cheese sandwich. Ted and Cathy do not eat meat. Cathy does not eat fish. What does Ella eat?

Reteach*Make a Table to Find a Rule***A rule tells you what to do. This works in math too.**

To build a boxcar, Bob needs to put 4 wheels on the corners of a wooden box. If he wanted to build 4 boxcars, how many wheels would he need?

Step 1 *Find a pattern.**You know that 1 boxcar = 4 wheels.**So, 2 boxcars = 8 wheels.**The pattern or rule is to multiply by 4.***Step 2** *Extend the pattern.**3 boxcars = 3×4 or 12 wheels.* *$3 \times 4 = 12$* *4 boxcars = $4 \times 4 = 16$ wheels**So Bob needs 16 wheels.***Practice.**

- For every 2 wheels that Bob bought, the man in the store gave him 1 free wheel. When Bob bought 16 wheels, how many did he get free?

- Write the rule for each table. Then, complete the table.

Rule: _____	
Input	Output
3	6
	10
7	14
9	18

Rule: _____	
Input	Output
4	12
	15
7	21
8	24

Rule: _____	
Input	Output
5	25
	30
7	
8	40

Reteach*Make Function Tables (+, -)*

You can use a function table to represent relationships between numbers.

Look at the following function table.

Rule: add 4	
Input (\triangle)	Output (\square)
2	6
3	7
4	8
5	9

The rule for this table is add 4. In every row of the table, 4 is added to the input number to get the output number. For instance, in the first column $2 + 4 = 6$.

How would you complete the following table?

Rule: subtract 3	
Input (\triangle)	Output (\square)
14	11
15	12
16	■
17	■

Since the rule is to subtract 3, you would subtract 3 from each of the input numbers. The missing numbers are 13 and 14.

Complete each function table.

1.

Rule: subtract 5	
Input (\triangle)	Output (\square)
20	15
22	17
24	
26	

2.

Rule: add 10	
Input (\triangle)	Output (\square)
5	15
10	20
15	
20	

Reteach*Problem-Solving Investigation: Choose a Strategy***Choose a strategy**

Antonio picked 24 apples to make applesauce. It will take 12 apples for each batch of sauce. How many batches of sauce can Antonio make?



Step 1 Understand	Be sure you understand the problem. What do you know? <ul style="list-style-type: none"> • Antonio picked _____ apples. • It will take _____ apples to make a batch of applesauce. • You need to find how many batches of _____ Antonio can make.
Step 2 Plan <ul style="list-style-type: none"> • Guess and check • Work a simpler problem • Make an organized list • Draw a picture • Act it out 	Make a plan. Choose a strategy. You can draw a picture. Decide what facts you know. Plan what you will do and in what order. Use your plan to solve the problem. Then check your solution to make sure it is reasonable.

Reteach*Problem-Solving Investigation (continued)*

Step 3 Solve	Carry out your plan. You know that you need to find out how many batches of applesauce Antonio can make with 24 apples. Draw 24 circles to represent the apples. Circle groups of 12. Write a division sentence. $24 \div 12 = \underline{\hspace{2cm}}$
Step 4 Check	Is the solution reasonable? Reread the problem. How can you check your answer <hr/> <hr/>

Use any strategy shown below to solve.

- Guess and check
- Draw a picture
- Work a simpler problem
- Act it out
- Make an organized list

- 1.** Carolina has 25 peanuts and she wants to share them with 5 friends. If each friend gets the same amount of peanuts, how many will each one get?
- _____

- 2.** Becky went to the park with 6 friends. Two of them left early and 1 got hurt. How many are left to play with Becky?
- _____

Reteach*Make Function Tables (\times , \div)*

A function table is used to represent relationships between numbers. These relationships can also involve multiplication and division.

Rule: $\triangle \times 2$	
Input (\triangle)	Output (\square)
2	4
3	6
4	8
5	10

The rule for this table is multiply by 2. The input value is multiplied by 2 to get the output number.

Rule: $\triangle \div 3$	
Input (\triangle)	Output (\square)
12	4
15	5
18	6
21	7

The rule for this table is divide by 3. The input value is divided by 3 to get the output number.

Complete each function table.

1.

Rule: $\triangle \div 3$	
Input (\triangle)	Output (\square)
15	5
12	4
9	
6	

2.

Rule: $\triangle \times 5$	
Input (\triangle)	Output (\square)
2	10
4	20
6	
8	

Identify the rule of each function table.

3.

Rule: _____	
Input (\triangle)	Output (\square)
28	4
35	5
42	6
49	7

4.

Rule: _____	
Input (\triangle)	Output (\square)
3	18
5	30
7	42
9	54

Reteach*Length to the Nearest Half Inch*

Remember that length is the measurement of distance between two end points. You can use almost anything to measure length.

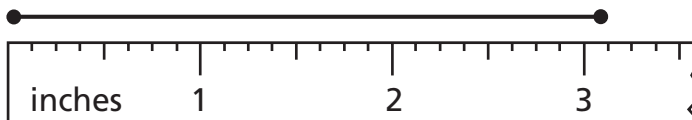
Use the nonstandard unit of a penny to measure length.

Count the number of pennies.



An inch is a standard unit. Use an inch ruler to measure length.

Place the ruler so that the left edge or the "0" mark lines up with the endpoint. Find the inch mark nearest the other endpoint.



The line is about 4 pennies long.

The line is 3 inches long to the nearest inch.

Use a nonstandard unit and a ruler to measure. Measure to the nearest inch. Write the length.

1. _____

2. _____

3. _____

4. _____

Use an inch ruler. Draw a line for each length.

5. 7 inches

6. 5 inches

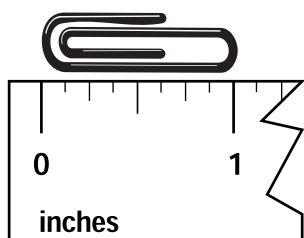
7. 2 inches

8. 1 inch

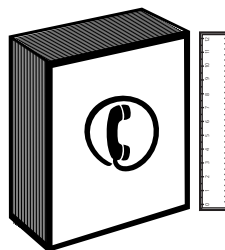
Reteach*Customary Units of Length*

You can use a ruler or yardstick to measure lengths.

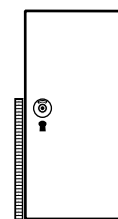
This is **1 inch (in.)**.



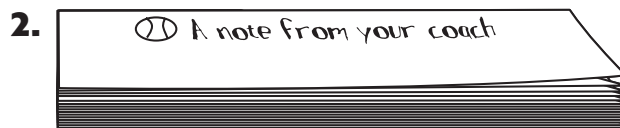
A **foot (ft)** is 12 inches.
A telephone book
is about 1 foot long.



A **yard (yd)** is 3 feet,
or 36 inches.
A doorknob is about
1 yard above the floor.



Use an inch ruler to measure each length.



Choose the best estimate.

4. about 8 in.
a telephone
a desk top

5. about 1 yd
a baseball
a baseball bat

6. about 1 ft
a computer keyboard
a computer mouse

7. about 2 yd
a door's height
a baby's height

8. about 8 ft
a room's height
your height

9. about 7 yd
a parking sticker
a parking space

Reteach*Problem-Solving Strategy: Work Backward*

Joan buys 6 tickets. Each ticket costs \$3. How much money does Joan spend on tickets in all?

Step 1 Understand	Make sure you understand the problem. <ul style="list-style-type: none"> What do you know? Joan buys 6 tickets. Each ticket costs \$3. What do you need to find? How much money Joan will spend in all on the tickets.
Step 2 Plan	Make a plan. You can add or multiply to find the total.
Step 3 Solve	Carry out your plan. $\$3 + \$3 + \$3 + \$3 + \$3 + \$3 = \$18$ $6 \times \$3 = \18 Multiplication is the better choice. Joan spends \$18 on tickets.
Step 4 Check	Check your answer. Is it reasonable?

Solve. Use the *work backward* strategy.

- There are 3 times as many jazz students as there are rock students in a music class. If there are 12 students altogether, how many rock students are there?
- There are 3 jugglers on the stage. Each juggler is juggling 4 oranges. How many oranges are there in all?

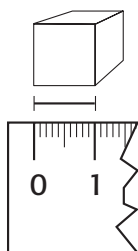
Reteach*Problem-Solving Strategy: Work Backward* (continued)

3. Derrick buys 5 CDs every week for 4 weeks. How many CDs does he buy during that time?
- _____
4. There were 15 scouts at this week's scout meeting. Last week, there were twice as many scouts minus 5. How many scouts were at last week's meeting?
- _____
5. Erin asks each member of her class what his or her favorite color is. The results are red, blue, green, green, blue, blue, blue, red, yellow, red, and blue. What is the most common favorite color among Erin's classmates?
- _____
6. A family of four spent \$50 at an amusement park. If food cost \$10, and each ticket cost the same amount, how much was the cost of each admission ticket?
- _____
7. Hakeem spends \$100 of his money from his summer job on clothes and supplies for school. If he has \$25 leftover, how much money did he have originally?
- _____
8. If Mrs. Kang can bake 2 loaves of bread in an hour, how many loaves can she bake in 4 hours?
- _____

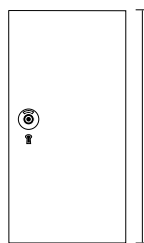
Reteach*Metric Units of Length*

In the metric system, you use centimeters (cm) to measure length.

This is 1 centimeter (cm). 1 meter (m) = 100 cm



A ones cube is
1 cm wide.



A door is about
1 m wide and 2 m high.

Choose the most appropriate unit to measure each length.

Write *millimeter, centimeter, meter, or kilometer.*

- | | |
|--|---|
| 1. a football _____ | 2. a baseball field _____ |
| 3. a blade of grass _____ | 4. the height of a goalpost _____ |
| 5. the length of a
running shoe _____ | 6. the distance you can throw
a ball _____ |

Circle the best estimate.

7. a football player's height

A. 2 cm

B. 2 dm

C. 2 m

8. the length of an eyelash

F. 9 cm

G. 9 mm

H. 9 m

9. the height of a tree

A. 30 cm

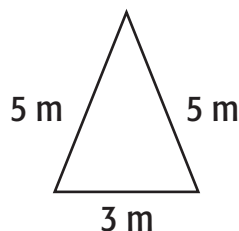
B. 30 mm

C. 30 m

Reteach*Measure Perimeters*

The perimeter is the distance around the outside of a figure or shape.
To find perimeter, add the lengths of the sides.

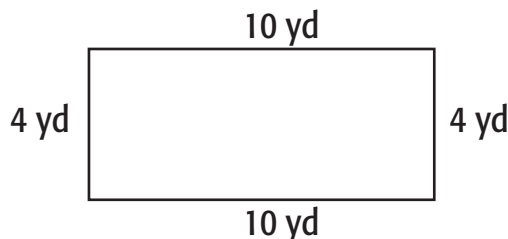
To find the perimeter of this triangle, add the lengths of the 3 sides.



$$5 + 5 + 3 = 13$$

The perimeter is 13 m.

To find the perimeter of this rectangle, add the lengths of the 4 sides.

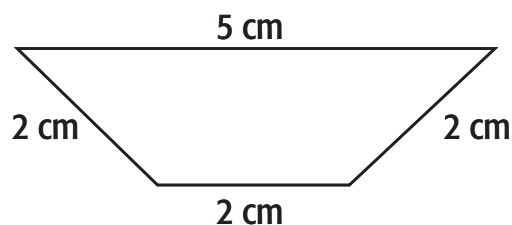


$$10 + 4 + 10 + 4 = 28$$

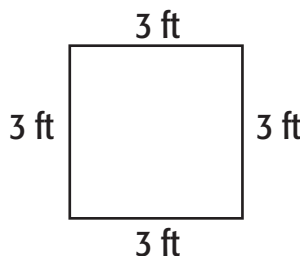
The perimeter is 28 yd.

Complete the sentences.

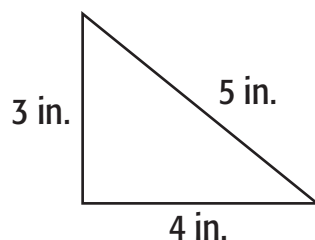
1. The trapezoid has _____ sides.
2. To find the perimeter of the trapezoid, I must _____ the lengths of the sides.
3. The lengths of its sides are _____, _____, _____, and _____.
4. Find the perimeter. $2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 5\text{ cm} = \underline{\hspace{1cm}}\text{ cm}$

**Find the perimeter of each figure.**

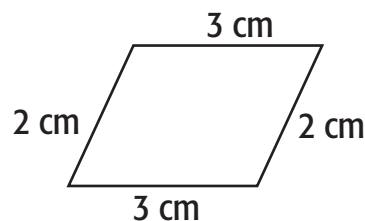
5.



6.



7.



Reteach*Measure Areas*

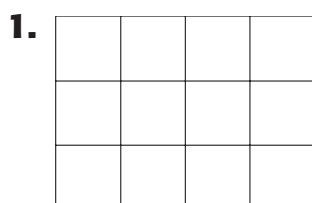
The number of square units needed to cover a figure without overlapping is called *area*. You can use grid paper to help you find the area of a figure.

1	2	3	4	5
6	7	8	9	10

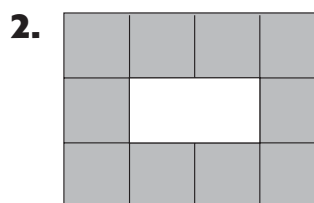
Count the units.
The area of this rectangle is
10 square units.

1	2	3
4	5	
6	7	8

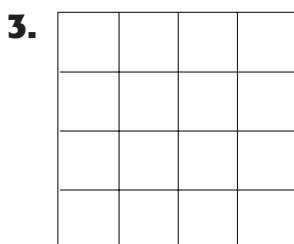
Count the units.
The area of this figure is
8 square units.

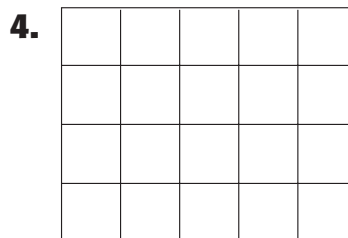
Find the area of each figure.

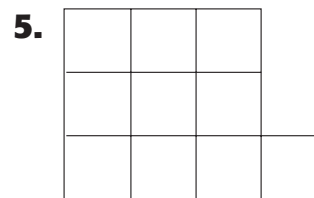
The rectangle has _____ square units. It has an area of _____ square units.



The shaded figure has _____ square units. It has an area of _____ square units.

Find the area of each figure.





Reteach*Problem-Solving Investigation: Choose a Strategy*

Claire made a quilt. The quilt has a length of 7 feet and a width of 5 feet. Each patch is a square with an area of 1 square foot. How many patches are in the quilt?

Understand	<p>You know the length of the quilt is 7 feet and the width of the quilt is 5 feet.</p> <p>You know the area of each patch is 1 square foot.</p> <p>You need to find how many patches are in the quilt.</p>
Plan	You can draw a picture to help solve the problem.
Solve	<p>Draw a picture of the quilt. The width should be 5 units and the length should be 7 units. Each unit equals one square foot.</p> <div data-bbox="790 1068 992 1215" data-label="Image"> </div> <p>Each patch has an area of 1 square foot. So, each square represents a patch. Count the squares in your drawing. Claire's quilt has 35 patches.</p>
Check	<p>Look back at the problem.</p> <p>You can find the area of the quilt by multiplying the length times the width.</p> $7 \times 5 = 35$ <p>The answer checks. There are 35 patches in Claire's quilt.</p>

Reteach*Problem-Solving Investigation (continued)*

Use any Problem-Solving strategy shown below to solve.

- Choose an operation
- Guess and check
- Make a table
- Solve a simpler problem

- 1.** Maria's class had a bake sale. They sold cupcakes and cups of milk. For every dozen cupcakes they sold, they poured a half a gallon of milk. If the class sold 24 dozen cupcakes, how many gallons of milk did they pour?

- 2.** Pablo went golfing. On the first 9 holes, he took four strokes on each hole. On the second 9, he only took 3 strokes on each hole. How many strokes did Pablo's take in all?

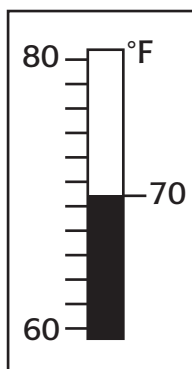
- 3.** Juanita collects marbles. For every 4 small marbles Juanita has, she has one large marble. If Juanita has 36 small marbles, how many large marbles does she have?

- 4.** Toby swims laps every day. Shawna swims twice as many laps each day as Toby. If Shawna swims 14 laps a day, how many does Toby swim?

Reteach*Measure Temperatures*

Temperature is a measure that tells how hot or cold something is in degrees. Temperature is measured with a tool called a thermometer. The thermometers used in this lesson are labeled in degrees Fahrenheit.

Water freezes at 32°F . Is the temperature shown on the thermometer warmer or colder than 32°F ?



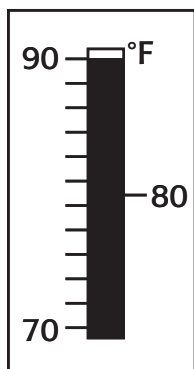
The temperature on the thermometer reads 70°F .
 70°F is warmer than 32°F .

Tell which temperature is warmer.
 85°F or 60°F

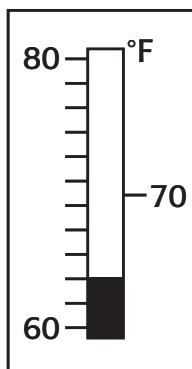
85 is greater than 60, so 85°F is warmer than 60°F .

Write the temperature in degrees Fahrenheit ($^{\circ}\text{F}$)

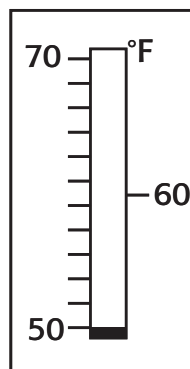
1.



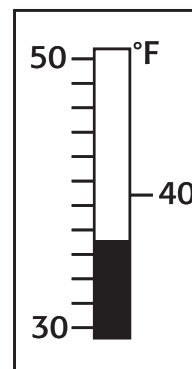
2.



3.



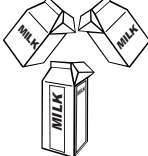
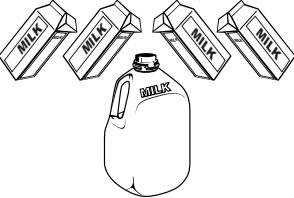


4.



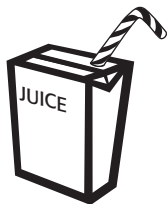
Reteach*Customary Units of Capacity*

Capacity tells how much an object can hold. You can measure capacity in cups, pints, quarts, and gallons.

 1 cup (c)	 2 c = 1 pint (pt)	 2 pt = 1 quart (qt) or 4 c = 1 qt	 4 qt = 1 gallon (gal)
--	--	---	--

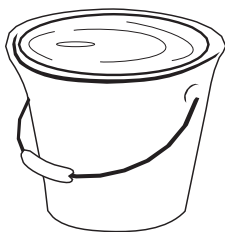
Choose the best estimate.

1.



- A. 1 c
B. 1 pt
C. 1 qt

2.



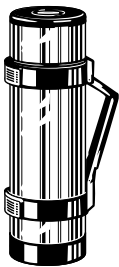
- A. 1 pt
B. 1 qt
C. 1 gal

3.



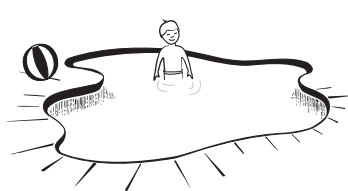
- A. 1 c
B. 1 qt
C. 1 gal

4.



- A. 10 c
B. 10 qt
C. 10 gal

5.



- A. 1,000 c
B. 1,000 qt
C. 1,000 gal

6.



- A. 2 c
B. 2 qt
C. 2 gal

Reteach*Problem-Solving Strategy: Guess and Check*

If you want to solve a problem, it is important to have a plan. You can use the *guess and check* strategy to solve problems.

Alicia is making bookmarks for the school fair. She needs 10 centimeters of ribbon for each bookmark. There is a meter of ribbon on each spool. How many bookmarks can she make out of one spool of ribbon? (*Hint*: Remember there are 100 centimeters in a meter.)

Understand	<p>What facts do you know?</p> <ul style="list-style-type: none"> • Each bookmark uses 10 centimeters of ribbon. • There is a meter of ribbon on each spool. <p>What do you need to find?</p> <ul style="list-style-type: none"> • How many bookmarks can be made from a spool of ribbon?
Plan	You can use the <i>guess and check</i> strategy. Guess how many bookmarks you can make and check the answer with division.
Solve	<p>Each bookmark is 10 centimeters. Each spool holds 1 meter of ribbon. Since 1 meter = 100 centimeters, we can guess that we can make 10 bookmarks. Check: $100 \div 10 = 10$</p> <p>So, Alicia can make 10 bookmarks.</p>
Check	<p>Look back at the problem. One way to check the answer is work it backward. Check your division with multiplication.</p> <p>$10 \times 10 = 100$</p> <p>So, the answer is correct.</p>

Reteach*Problem-Solving Strategy (continued)*

Solve. Use the *guess and check* strategy.

1. Ben is swimming in a 50 meter race on Saturday. He needs to measure the length of the swim, but he only has lengths of string 10 centimeters long. How many lengths of string will he need to equal 50 meters?

2. Irene's foot is about 10 cm long. How many foot lengths will it take Irene to walk about 3 meters?

3. Mario is growing fresh carrots. Each week he measures his plants. If his plants grow 5 mm each week, how long will it take for his plants to reach 3 cm?

4. Marta has a stack of books 1 meter high. If Marta sorts her books into 10 equal stacks, how high will each stack be?

5. Brady has 4 coins that total 45¢. Name the coins Brady has.

Reteach*Metric Units of Capacity*

The metric system uses milliliters and liters to measure capacity.

$$1,000 \text{ milliliters (mL)} = 1 \text{ liter (L)}$$

This drop of water is 1 mL.

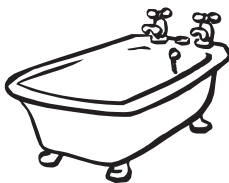
A drinking glass holds
about 240 mL.

A bottle of water holds
1,000 mL, or 1 L.



Which unit would you use to measure the capacity of each?
Write *mL* for milliliters and *L* for liters.

1.



2.



3.



Circle the best estimate to complete each sentence.

4. A juice box holds about _____ mL.

A. 8

B. 18

C. 180

5. A teaspoon holds _____ mL.

F. 10

G. 100

H. 1,000

6. A large pot holds about _____ L.

A. 1

B. 6

C. 60

Reteach*Problem-Solving Investigation: Choose a Strategy*

Coach Betty wants 11 liters of water in a cooler. She has a 5-liter bottle and an 8-liter bottle. How can she use them to measure exactly 11 liters?

<p>Step 1 Understand</p>	<p>Be sure you understand the problem.</p> <p>Read carefully</p> <p>What do you know?</p> <ul style="list-style-type: none"> • Coach Betty wants _____ liters of water in a cooler. • Coach Betty has bottles that hold _____ liters and _____ liters. <p>What do you need to know?</p> <ul style="list-style-type: none"> • You need to find how to use the bottles to measure _____.
<p>Step 2 Plan</p> <ul style="list-style-type: none"> • Draw a picture or diagram • Make a graph • Look for a pattern • Choose an operation • Make a table • Work backward • Guess and check 	<p>Make a plan.</p> <p>Choose a strategy.</p> <p>Use draw a picture to solve the problem.</p> <p>You can use the difference of the amount of water in the bottles to measure exactly 11 liters.</p>

Reteach*Problem-Solving Investigation (continued)*

Step 3 Solve	Carry out your plan. Follow the steps. <ul style="list-style-type: none"> • Fill the 8-L bottle. • Fill the 5-L bottle from the 8-L bottle. • Pour what is left in the 8-L bottle into the cooler. • Refill the 8-L bottle • Pour the water from the 8-L bottle into the cooler. • Add. $8 + 3 = \underline{\hspace{2cm}}$. There are $\underline{\hspace{2cm}}$ liters in the water cooler.
Step 4 Check	Look back. Is the solution reasonable? Reread the problem. How can you check your answers? _____ _____

Use any strategy to solve. Tell what strategy you used.

- 1.** Ed has a 6-oz cup and an 8-oz cup. How can he use the cups to measure 10 ounces of water?

- 2.** Cathy, Ted, and Ella eat lunch. One has a ham sandwich, one has a tuna sandwich, and one has a cheese sandwich. Ted and Cathy do not eat ham. Cathy does not eat fish. What does Ella eat?

Reteach*Customary Units of Weight*

Weight tells how heavy an object is. You can measure weight in ounces and pounds.

$$16 \text{ ounces} = 1 \text{ pound}$$



1 **ounce (oz)**

Use ounces to weigh light objects.



5 oz



1 **pound (lb)**

Use pounds to weigh heavier objects.



10 lb

Circle the letter of the better estimate.

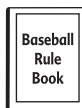
1.



A. 1 oz

B. 1 lb

2.



F. 6 oz

G. 6 lb

3.



A. 1 lb

B. 10 lb

4.



F. 3 oz

G. 30 oz

5.



A. 25 oz

B. 25 lb

6.



F. 4 oz

G. 4 lb

Estimate the weight of each object. Draw a line to match.

7. baseball coach

A. 1 lb

8. sweatsuit

B. 40 lb

9. pair of socks

C. 150 lb

10. first grader

D. 10 lb

11. a cat

E. 2 oz

Reteach*Metric Units of Mass*

Mass is the amount of matter in an object. In the metric system, units of mass are the **gram** and the **kilogram**.

$$1,000 \text{ grams (g)} = 1 \text{ kilogram (kg)}$$



1 g

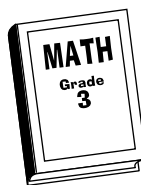


145 g



220 g

Use grams to find the mass of small things.



1 kg



5 kg



2 kg

Use kilograms to find the mass of larger things.

Choose the most appropriate unit to measure each mass.

Write *gram* or *kilogram*.

- | | |
|-------------------------|--------------------------|
| 1. a third-grader _____ | 2. a juice box _____ |
| 3. a golf ball _____ | 4. a golf club _____ |
| 5. a whistle _____ | 6. a bag of apples _____ |

Draw a line to match each object and its mass.

- | | |
|------------------------|-------------|
| 7. a football helmet | A. 1 kg |
| 8. a remote control | B. 10 kg |
| 9. a car | C. 1,200 kg |
| 10. a computer disk | D. 22 g |
| 11. a bag of groceries | E. 500 g |

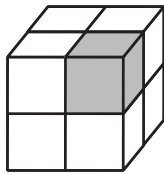
Reteach*Estimate and Measure Volumes*

A **cubic unit** is a unit of volume. 

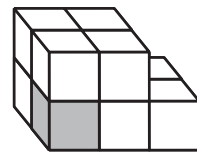
Volume is the number of cubic units a solid figure holds.

You can use cubes to help you find volume. Count the cubes.

This figure has a volume of 8 cubic units.



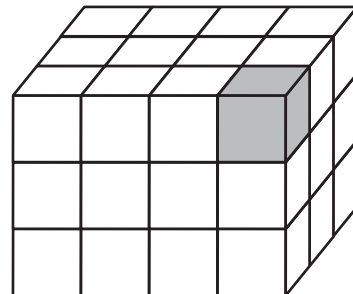
This figure has a volume of 10 cubic units.



Remember to count the blocks in the back that you cannot see.

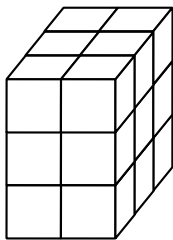
Use the figure at the right to answer 1–5.

1. The top layer has _____ cubic units.
2. The middle layer has _____ cubic units.
3. The bottom layer has _____ cubic units.
4. How many cubes are there in all? _____
5. The volume is _____ cubic units.

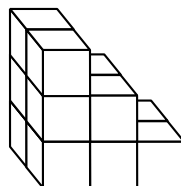


Find the volume of each figure.

6.



7.



Reteach*Tell Time*

The clock below is a digital clock. A digital clock shows the time in numbers.



Read: four twenty eight

Write: 4:28

The digits **before** the colon (:) show the hour.
The digits **after** the colon (:) show the minutes.

The clock below is an analog clock. An analog clock has an hour hand and a minute hand.



Read: eight thirty

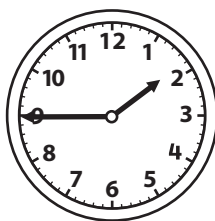
Write: 8:30

To find the hour: Look at the shorter hand. It has passed the 8, so the hour is 8.

To find the minute: Look at the longer hand. Start at the 12 and count by 5s. At the 6, the minute hand shows 30 minutes.

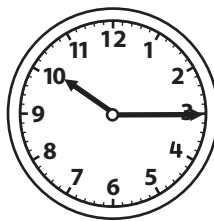
Circle the letter of the correct time.

1.



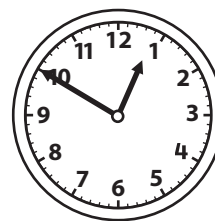
A. 1:15 **B.** 1:45

2.



A. 11:45 **B.** 10:15

3.

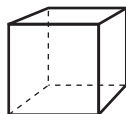


A. 12:50 **B.** 1:50

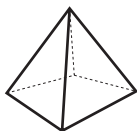
Reteach

Three-Dimensional Figures

The objects you see around you are solid figures. A solid, or three-dimensional figure, is a figure that has length, width, and depth.



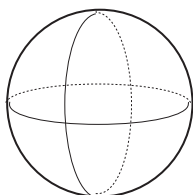
cube



pyramid


rectangular
prism


cylinder



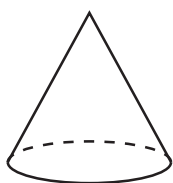
sphere



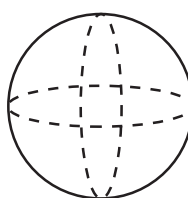
cone

Identify each three-dimensional figure.

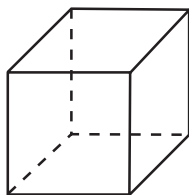
1.



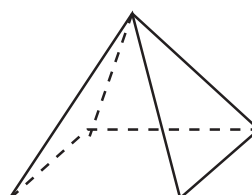
2.



3.



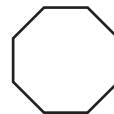
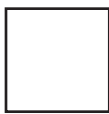
4.



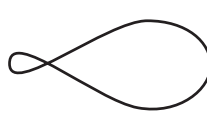
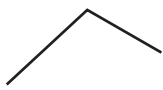
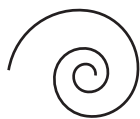
Reteach*Two-Dimensional Figures*

A polygon is a closed two-dimensional figure with straight sides.

These are polygons.

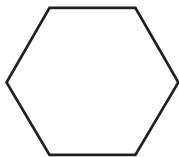


These are **not** polygons.

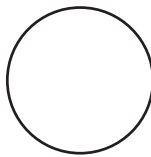


Circle the polygons below.

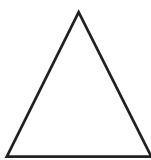
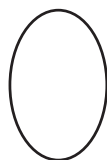
1.



2.

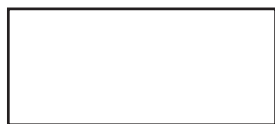


3.

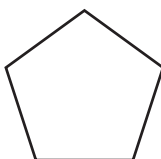


Identify each two-dimensional figure.

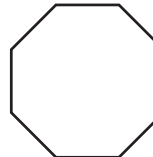
4.



5.



6.



Reteach*Problem-Solving Strategy: Solve a Simpler Problem*

A family of 2 adults and 3 children each order a sandwich and a drink in the museum cafeteria. Sandwiches cost \$4 each and drinks are \$1. How much does lunch cost in all?

<p>Step 1 Understand</p>	<p>Be sure you understand the problem. Read carefully.</p> <p>What do you know?</p> <ul style="list-style-type: none"> • There are _____ people in the family. • They buy _____ sandwiches for _____ each and _____ drinks for _____ each. <p>What do you need to know?</p> <ul style="list-style-type: none"> • You need to find how much _____
<p>Step 2 Plan</p> <ul style="list-style-type: none"> • Solve a Simpler Problem 	<p>Make a plan. Choose a strategy.</p> <p>Make up a problem similar to the one you need to solve, but use simpler or easier numbers. Then solve the real problem the same way.</p>
<p>Step 3 Solve</p>	<p>Carry out your plan. Solve this simpler problem.</p> <p>5 sandwiches cost $5 \times$ _____ or _____.</p> <p>5 drinks cost $5 \times$ _____ or _____.</p>

Reteach*Problem-Solving Strategy (continued)*

	<p>The total amount is _____ + _____ = _____.</p> <p>Now solve the real problem the same way.</p> <p>5 sandwiches cost $5 \times$ _____ or _____.</p> <p>5 drinks cost $5 \times$ _____ or _____.</p> <p>The total amount is _____ + _____ = _____.</p>
Step 4 Check	<p>Is the solution reasonable? Reread the problem.</p> <p>Is your answer make reasonable? Yes No Did you answer the question? Yes No</p> <p>What other strategies could you use to solve the problem?</p> <p>_____</p>

Solve. Use the *solve a simpler problem* strategy.

1. The Wilsons buy 2 adult's tickets for \$5 each and 3 children's tickets for \$3 each. How much money do they spend in all?
- _____

2. Virginia buys 3 model airplanes for \$7 each, 2 tubes of paint for \$3 each, and 2 tubes of glue for \$2 each. How much money does she spend in all?
- _____

Reteach*Identify and Extend Geometric Patterns*

The squares on a checkerboard repeat a pattern: black, red, black, red, black, red. You might also find patterns on flooring, clothing material, or art.

If you saw the following repeating pattern, what would you expect the next shape to be?



Step 1 Identify the shapes in the pattern.

The shapes are: square, rectangle, pentagon, and parallelogram.

Step 2 This is the pattern unit.

There are four shapes, so the fifth shape will be a repeat of the very first shape.

So, the next shape in the pattern will be a square.

If you saw a pattern unit that repeats 2 circles and 1 triangle, what would the sixth shape be?

The sixth shape would be a triangle.

Identify and extend each pattern.

1. How many triangles will be used if this pattern repeats 4 times? _____



2. You see a pattern that repeats the following: red circle, blue circle, red circle, green circle. There are 26 circles total. How many red circles are used? _____

3. How many rectangles will be used if this pattern continues until there are a total of 23 polygons? _____



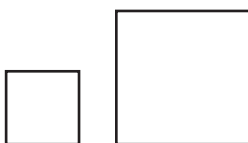
Reteach*Identify Congruent Figures*

Figures are congruent if they have the same shape **and** the same size.

The following is an example of a pair of **congruent figures**.

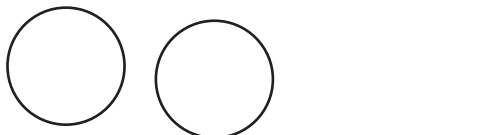
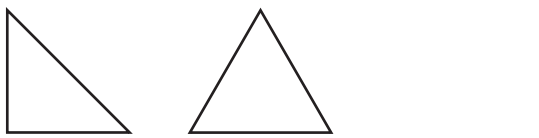


The following figures are **not** congruent.



These figures are not congruent even though they are the same shape. They do not have the same size.

Tell whether each pair of figures is congruent. Write yes or no.

1.**2.****3.**

Reteach*Problem Solving Investigation: Choose a Strategy*

Sabrina has collected trading cards for 5 years. She now has 125 trading cards. In the second year, she collected 34 more cards than she did the first year. She only collected 12 cards her third and fourth years. In her fifth year she collected 9 Cards. How many did she collect the in the fifth year?

Understand	<p>Be sure you understand the problem.</p> <p>What do you know?</p> <ul style="list-style-type: none"> You know Sabrina has 125 trading cards. You know she collected 34 more cards in the second year than in the first year. <p>What do you need to find?</p> <ul style="list-style-type: none"> You need to find how many cards Sabrina collected in the first year. 																								
Plan	<p>Make a plan.</p> <p>Choose a strategy.</p> <p>Organize the data in to a table to help you solve the problem.</p>																								
Solve	<p>First, fill in what you know.</p> <table border="1"> <thead> <tr> <th>Year</th><th>Cards Collection</th></tr> </thead> <tbody> <tr> <td>1</td><td></td></tr> <tr> <td>2</td><td></td></tr> <tr> <td>3</td><td>12</td></tr> <tr> <td>4</td><td>12</td></tr> <tr> <td>5</td><td>9</td></tr> </tbody> </table> <p>You know Sabrina now has 125 cards. $125 - 12 - 12 - 9 = 92$ cards</p> <p>You know Sabrina collected 34 more cards in the second year than in the first year. So, $92 - 34 = 58$</p> <p>Divide $58 \div 2 = 29$</p> <p>Sabrina collected 29 cards in the first year.</p> <p>$29 + 34 = 63$</p> <p>Sabrina collected 63 cards in the second year.</p> <table border="1"> <thead> <tr> <th>Year</th><th>Cards Collection</th></tr> </thead> <tbody> <tr> <td>1</td><td>29</td></tr> <tr> <td>2</td><td>63</td></tr> <tr> <td>3</td><td>12</td></tr> <tr> <td>4</td><td>12</td></tr> <tr> <td>5</td><td>9</td></tr> </tbody> </table>	Year	Cards Collection	1		2		3	12	4	12	5	9	Year	Cards Collection	1	29	2	63	3	12	4	12	5	9
Year	Cards Collection																								
1																									
2																									
3	12																								
4	12																								
5	9																								
Year	Cards Collection																								
1	29																								
2	63																								
3	12																								
4	12																								
5	9																								

Reteach*Problem Solving Investigation (continued)*

Check	Is the solution reasonable? Reread the problem. Check your answer.
--------------	--

Use any strategy to solve. Tell what strategy you used.

- Draw a picture or diagram
- Find a pattern
- Guess and check
- Use logical reasoning

- 1.** Spencer biked two miles to get to his Aunt's house. Then he hiked twice as far to the park. How many miles was the total trip?
- _____

- 2.** The department store is having a sale on sports equipment. All of the equipment is on sale at half the original price. Heather purchases 3 soccer balls, 4 water bottles, and 1 pair of running shoes. How much money did she spend?

Item	Original Price
Baseball	\$6
Soccer ball	\$12
Running shoes	\$40
Water bottle	\$4
Basketball hoop	\$150

- 3.** What two numbers are missing in the pattern below?

4, 8, 12, 16, 20, , 28,

- 4.** James walked his dog 3 blocks to his friend's house. On the way home, they walked twice as long. How many blocks was the trip?
- _____

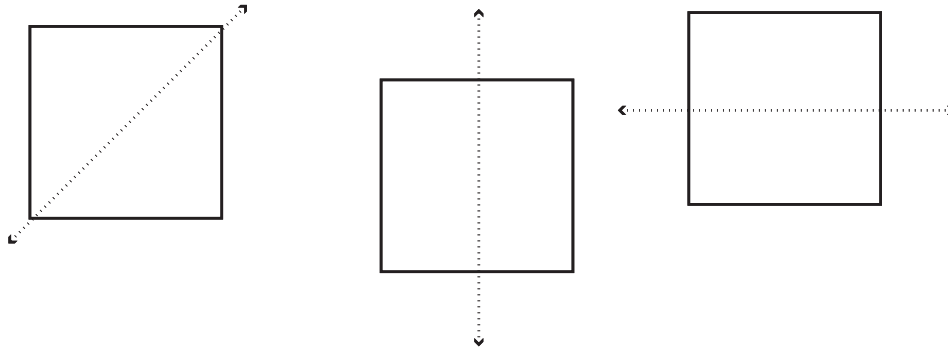
- 5.** The class has 20 students. Each student has 2 erasers at their desk. How many erasers are there altogether?
- _____

- 6.** Annie gave cards to her friends and family. 20 cards were for her classmates, 1 card was for her teacher and 4 cards were for other people. How many total cards did she give out?
- _____

Reteach*Symmetry*

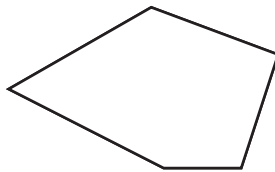
A figure has symmetry if it can be cut in half and the two halves are exact matches. You could fold the figure along a line of symmetry and the two sides would be mirror images.

The following figure has line symmetry.



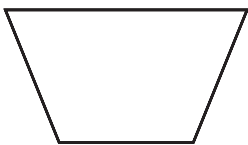
The two halves formed by the lines are exact matches.

The following figure does not have line symmetry.

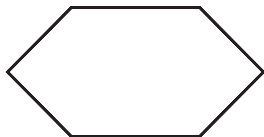


Tell whether each figure has line symmetry. Write *yes* or *no*. If yes, tell how many lines of symmetry the figure has.

1.



2.



3.



Reteach*Whole Numbers on a Number Line*

Points on a number line represent numbers.

The following number line represents years.



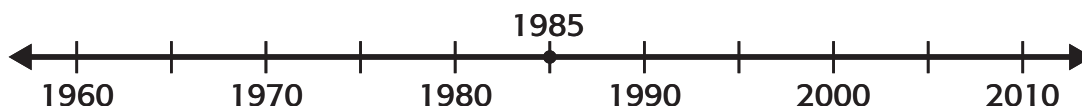
Where would you put a point on the number line to represent 1985?

Step 1 Find the interval between the lines.

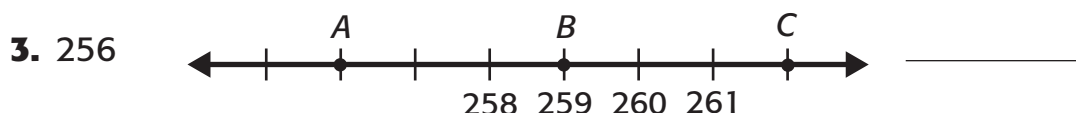
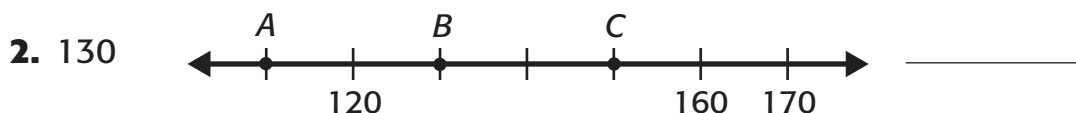
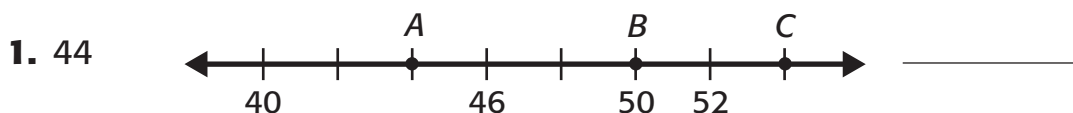
The interval between lines is 5 years.

Step 2 Place the point between the appropriate numbers.

The point for 1985 should go on the line between 1980 and 1990.



Tell what point represents each number on the number line.

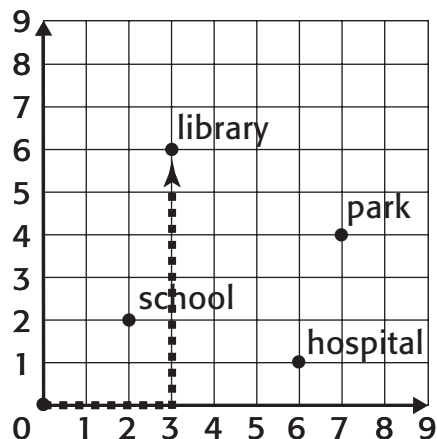


Reteach*Ordered Pairs*

Just as on number lines, points on a grid represent numbers.

A point such as (3, 5) names a specific place on the grid.

Write the points for the location of the library.



Step 1 Find the first number. Start at (0, 0). Move right until you are directly below the location of the library.

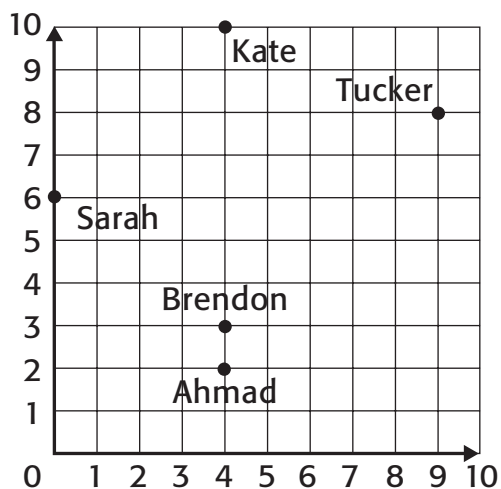
The first number is 3.

Step 2 Find the second number.

Move up until you reach the library. The second number is 6.

The point is (3, 6).

Write the ordered pair for the location of each item on the grid.



1. Tucker

2. Sarah

3. Ahmad

4. Brendon

5. Kate

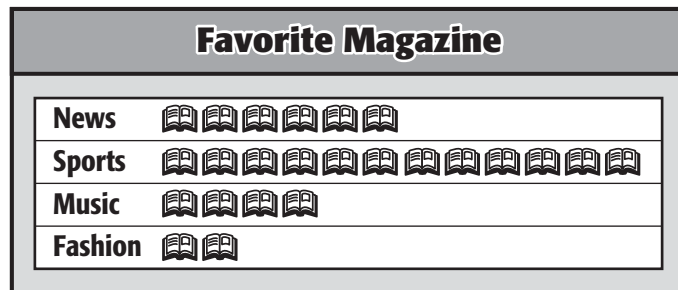
Reteach*Pictographs*

Debbie is selling magazine subscriptions to raise money for her school. She wants to find out what kind of magazines people like to read, so she takes a survey of her neighbors. She shows the results in a chart. Then, Debbie uses the chart to make a pictograph.

A **tally chart** is a table that organizes data using tally marks. Data displayed in a tally chart can also be displayed in a pictograph.

A **pictograph** is a graph that uses one picture or symbol to display or show data.

Favorite Magazine	
Magazine	Number of People
News	
Sports	
Music	
Fashion	



Use the data in the pictograph to answer the questions.

- How many people like Fashion magazines?

- How many more people like News magazines than Music magazines?

- Which type of magazine is the most popular?

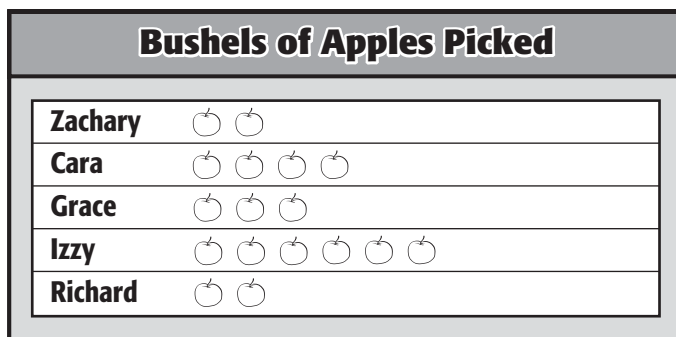
- How many people took part in the survey?


- Do more or less than 5 people like News magazines?

- Which two types of magazines do people like the least?

Reteach*Interpret Pictographs*

You have learned how to collect and display data in pictographs. Now you will read and interpret data from a pictograph.



Key:  = 2 bushels

Angela and her class took a trip to an apple orchard. She asked her friends how many bushels of apples they picked. The pictograph above shows the results.

Use the pictograph. Who picked two more bushels of apples than Grace?

The key shows that each  means 2 bushels.

The pictograph shows that Grace has picked 6 bushels.

$$\text{apple symbol} + \text{apple symbol} + \text{apple symbol} \text{ or } 2 + 2 + 2 = 6$$

To add two more bushels, show one more  symbol.

$$\text{apple symbol} + \text{apple symbol} + \text{apple symbol} + \text{apple symbol} \text{ or } 2 + 2 + 2 + 2 = 8$$

The pictograph shows that Cara has picked 8 bushels.

So, Cara picked two more bushels than Grace at the apple orchard.

1. How many bushels did Izzy pick? _____

2. How many symbols are needed to show 10 bushels?

Reteach*Problem-Solving Strategy: Make a List*

For the special today, you have a choice of a main dish and a drink. How many different combinations are possible?



Step 1 Understand	Be sure you understand the problem. Read carefully. What do you know? • Main dishes are _____ • Drinks are _____ What do you need to find? • You need to find how many _____ _____
Step 2 Plan	Make a plan. Choose a strategy. Making a list can help you solve the problem.

Reteach*Problem-Solving Strategy (continued)*

Step 3 Solve	Carry out your plan. List the possible choices. 1. eggs, _____ 2. pancakes, _____ 3. waffles, _____ 4. _____, juice 5. _____, juice 6. _____, juice There are _____ different combinations.
Step 4 Check	Is the solution reasonable? Reread the problem. How can you check to make sure your answer is correct? _____ _____

Solve. Use the *make a list* strategy.

1. Karen packs 3 pairs of pants in blue, black, and white. She packs 3 shirts in gray, green, and blue. How many different outfits can Karen wear?

2. The ski lodge offers packages for 3 days or 7 days. For each package, you can choose a deluxe room, a standard room, or a budget room. How many different packages are there?

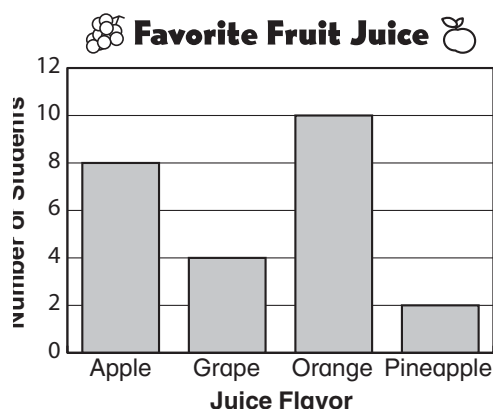
Reteach*Bar Graphs*

Mark takes a survey of some third-grade students to find out which flavor of juice they like best. He shows the results in a chart. Then Mark uses the chart to make a bar graph.

A **bar graph** is a graph that shows data using bars. The **scale** along one side of the bar graph is a set of equally spaced marks to tell how many.

The first bar in the graph tells you that 8 students like apple juice.

Favorite Fruit Juice	
Juice	Number of Students
Apple	8
Grape	4
Orange	10
Pineapple	2



Use the set of data in the bar graph to answer the questions.

1. How many students like grape juice?

2. Which juice flavor is the students' least favorite?

3. How many more students like orange juice than pineapple juice?

4. Which two juice flavors do the students like the best?

5. Which juice flavor did the students like the most? How can you tell?

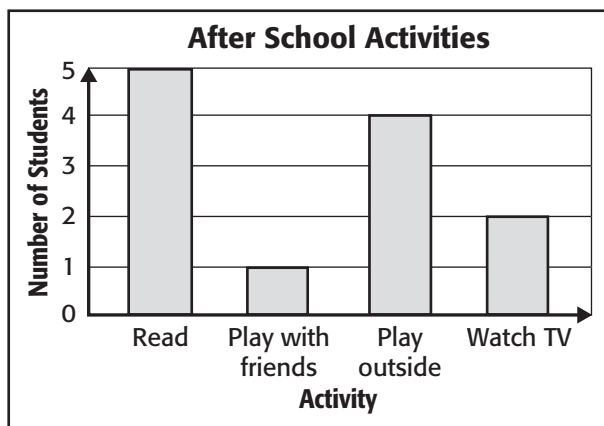
6. How many students were in this survey? How do you know?

Reteach*Interpret Bar Graphs*

Lisa surveyed the students at her school to find out what they like to do after school. The bar graph shows the results.

You have learned to interpret data in a pictograph. You can also interpret the data in a bar graph.

What is the difference between the most and least favorite after school activities?



Five students like to read. One student likes to play with her friends. Subtract to find the difference. $5 - 1 = 4$

So, the difference between the most and least favorite after school activities is 4.

1. What is the difference between the number of people who like to play outside and the number who like to watch television?

2. What is the second most popular after school activity?

3. If you were in charge of planning activities, how would you use this information? What would you plan?

Reteach*Line Plots*

Like a vertical bar graph, a **line plot** shows information vertically. The base of the line plot is just that, a line, where we can place numbers or sometimes words. Unlike a bar graph, a line plot doesn't have a vertical scale. Above each number or word at the base, we plot an X to represent how often something happens.

Let's make a line plot together. We'll plot the number of chores Paula did last week. On Sunday, Thursday, and Saturday, she did 4 chores a day. On Monday through Wednesday, she did 2 chores a day. One Friday, she did none. Use the space below to make your line plot.

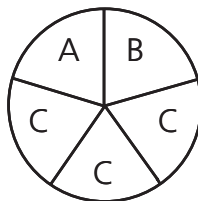
1. Make a line along the bottom of the page, but leave room for words below the line.
2. Write the days of the week under the line. Space the days as evenly as you can.
3. For each chore Paula completed each day, put one X above that day.
4. Take a look at your line plot. You may not have an X above each day. Should you?

Reteach*Identify Probability*

Probability is the chance that an event will happen.

The spinner has 5 sections.

The spinner shows the letters A, B, and C.

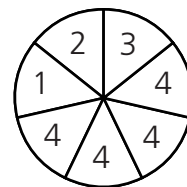


If you spin the spinner:

- It is **certain** that you will land on an A, B, or C.
These are the letters showing.
- It is **impossible** that you will land on the letter D.
There is no letter D on the spinner.
- It is **likely** that you will land on the letter C.
Most of the letters on the spinner are Cs (3 of the 5).
- It is **unlikely** that you will land on the letter A or B.
Only 1 of the 5 letters is an A. Only 1 of the 5 letters is a B.

Describe the probability of landing on each number.
Write *certain, likely, unlikely, or impossible*.

1. Land on a 4.
Think: Four of the 7 numbers are 4s.
The probability of landing on a 4 is _____.
2. Land on a 7.
Think: None of the numbers is a 7.
The probability of landing on a 7 is _____.
3. Land on a 3.
Think: Only 1 of the 7 numbers is a 3.
The probability of landing on a 3 is _____.
4. Land on a number.
Think: Every section of the spinner shows a number.
The probability of landing on a number is _____.



Reteach*Problem-Solving Investigation: Choose a Strategy***Choose the Best Strategy**

Beatriz joined a new basketball team. The first game they played, they scored 15 points. The next game they scored 20, and the following game they scored 25. If this pattern continues, how many points will they have scored at the end of 10 games?



Understand	You know the scores of the first three games. You need to find the total points scored after 10 games.										
Plan	Use the <i>make a table</i> strategy. Make a table showing 10 games and scores. Find scores by adding 5 to each previous score.										
Solve	Carry out your plan.										
	Game	1	2	3	4	5	6	7	8	9	10
	Score	15	20	25	30	35	40	45	50	55	60
	To find the total, add the scores from each game.										
	15 + 20 _____ 35 + 25 _____ 60 + 30 _____ 90 + 35 _____ 125 + 40 _____ 165 + 45 _____ 210 + 50 _____ 260 + 55 _____ 315 + 60 _____ So, the total number of points scored by this new team is 375 points.										
Check	Look back at the problem. Check your addition with subtraction. Ask yourself if the answer seems reasonable.										

Reteach*Problem-Solving Investigation (continued)***Use any strategy shown below to solve.**

- Use the four-step plan
- Make a table
- Work backward
- Guess and check
- Work a simpler problem
- Make a list

Ana is working hard to improve her swimming. Each day she swims 12 meters further than she did the day before. Ana swam 60 meters on Monday. How many meters will she be swimming by Saturday?

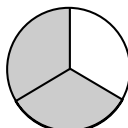
Understand	What do you know? Each day Anna Swims _____ She swam _____ What do you need to find? _____
Plan	Use the _____
Solve	$60 + 12$ _____ $72 + 12$ _____ $84 + 12$ _____ $96 + 12$ _____ $108 + 12$ _____ Anna can swim _____ by Saturday.
Check	_____

Reteach*Parts of a Whole*

A fraction is a number that names part of a whole. To write a fraction, each part of the whole must be the same size.



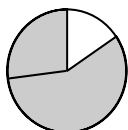
1 part shaded $\longrightarrow \frac{1}{4}$ is shaded.
4 parts in all $\longrightarrow \frac{1}{4}$



2 part shaded $\longrightarrow \frac{2}{3}$ is shaded.
3 parts in all $\longrightarrow \frac{2}{3}$

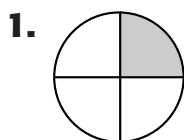


4 unequal parts
You cannot write a fraction.



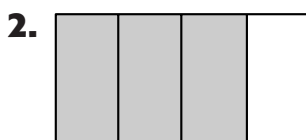
3 unequal parts
You cannot write a fraction.

Write a fraction that describes the fractional part of the whole that is shaded.



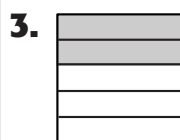
_____ parts shaded
_____ parts in all

fraction _____



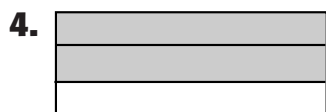
_____ parts shaded
_____ parts in all

fraction _____



_____ parts shaded
_____ parts in all

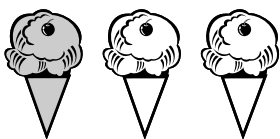
fraction _____





Reteach*Parts of a set*

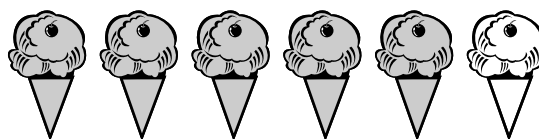
You can use a fraction to describe part of a group or set.



1 cone shaded

3 cones in all

One-third or $\frac{1}{3}$ are shaded.

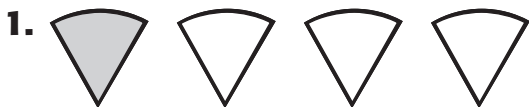


5 cones shaded

6 cones in all

Five-sixths or $\frac{5}{6}$ are shaded.

Write a fraction that describes the fractional part of the set that is shaded.



_____ are shaded.



_____ are shaded.



_____ are shaded.



_____ are shaded.



_____ are shaded.



_____ are shaded.

Reteach*Problem-Solving Investigation: Choose a Strategy*

Danny and Drew were playing cards. Danny had two cards in his hand that equaled 8 and the difference was 2. Drew held two cards that equaled six and the difference was 4. Do you know which cards they were holding?



Let's start with Danny's cards.

Understand: Danny had two cards. The sum of the cards was 8. The difference was 2. What were the cards?

Plan: Think about the different ways you can make the number 8.

Think... $0 + 8 = \underline{\quad}$ and $1 + 7 = \underline{\quad}$

Solve: To arrive at 8, we can add lots of numbers, but if the difference between the two addends is two, Danny must have a 3 and a 5 in his hand.

$5 + 3 = 8$, and $5 - 3 = 2$

Check: Look back at the problem.

$5 + 3 = 8$, and $5 - 3 = 2$ The difference is 2.

We are correct.

Using the same strategy, we can see that Drew is holding a 1 and a 5.

Reteach*Problem-Solving Investigation (continued)***Choose a strategy to solve.**

Items	Cost
Apples	\$1 per lb
Bananas	2 lb per \$1
Oranges	3 for a \$1
Pears	\$2 per lb

1. Teresa buys some fruit. She spent \$5 and bought apples, bananas, and 3 oranges. She didn't buy any pears. What did Teresa buy?

2. Dana bought some fruit, too. She spent \$3 and didn't buy any bananas or oranges. What did she buy?

Boat Rentals	
1-3 hrs	\$3 per hr
4-6 hrs	\$2 per hr
All day	\$15

3. Carmen and Bernice rented a boat from 9 A.M. to 2 P.M. How much did it cost?

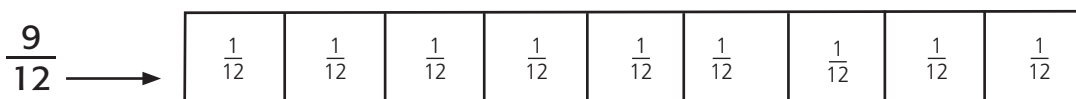
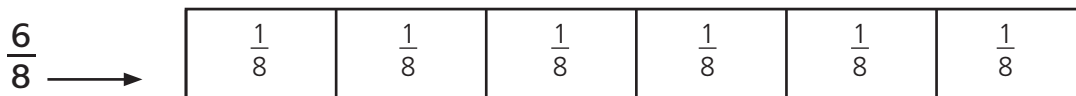
4. Fernando's lunch totaled \$4. He gave the waitress a ten dollar bill. How much change did he receive?

5. Would you rather find six dimes, four nickels, and eight pennies in the couch or eight nickels, two quarters, and three pennies?

6. Dana loves to go to the community pool. Admission is \$2 per day. She likes to buy a snack while she's there. She usually buys a bag of chips for 65 cents, and a soda for 95 cents. If Dana goes to the pool five days a week, how much does she spend?

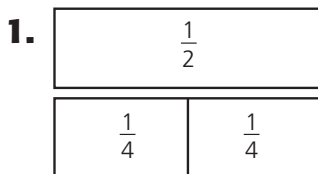
Reteach*Find Equivalent Fractions*

Fraction models can help you find fractions that name the same number, or **equivalent fractions**.

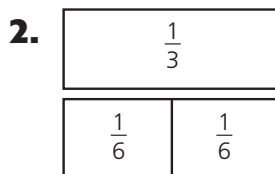


$\frac{3}{4}$, $\frac{6}{8}$, and $\frac{9}{12}$ are equivalent fractions.

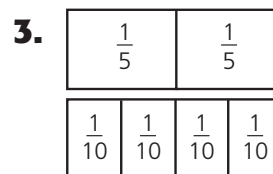
Use models to complete the equivalent fractions.



$$\frac{1}{2} = \frac{\boxed{}}{4}$$



$$\frac{1}{3} = \frac{\boxed{}}{6}$$



$$\frac{2}{5} = \frac{\boxed{}}{10}$$

4. $\frac{1}{4} = \frac{\boxed{}}{8}$

5. $\frac{3}{5} = \frac{\boxed{}}{10}$

6. $\frac{3}{6} = \frac{\boxed{}}{12}$

7. $\frac{3}{12} = \frac{\boxed{}}{4}$

8. $\frac{1}{2} = \frac{\boxed{}}{12}$

9. $\frac{4}{5} = \frac{\boxed{}}{10}$

10. $\frac{2}{8} = \frac{\boxed{}}{4}$

11. $\frac{8}{12} = \frac{\boxed{}}{3}$

Reteach*Problem-Solving Strategy: Draw a Picture*

An amusement park has 4 roller coasters. Each roller coaster has 6 cars. Each car has 2 wheels. How many wheels are there in all?

Step 1 Understand	Make sure that you understand the problem. <ul style="list-style-type: none"> • What do you know? An amusement park has _____ roller coasters. Each roller coaster has _____ cars. Each car has _____ wheels. • What do you need to find? _____
Step 2 Plan • Draw a Picture or Diagram	Figure out a plan. You can draw a picture to show what you know and what you need to find out.
Step 3 Solve	Carry out your plan. Draw 4 roller coasters. Draw 6 cars on each roller coaster. Draw 2 wheels on each car. Count the number of wheels. There are _____ wheels.

Reteach*Problem-Solving Strategy (continued)*

Step 4 Check	Is the solution reasonable? Yes No
	How can you use your picture to check your answer? <hr/> <hr/> <hr/>

Solve. Use the *draw a picture* strategy.

- There are 3 rows of 5 mini pizzas on a tray. Each mini pizza has 2 pepper slices on it. How many pepper slices are there in all?

- Reshma baked 3 batches of banana bread. Each batch had 4 loaves. Each loaf had 12 nuts in it. How many nuts did Reshma use in all?

- The quesadilla was cut into six pieces. Christina ate one third, Luis ate one third, and Mario ate one piece. How many pieces were left?

- The pencil cup needed to be cleaned out. There were 25 pencils in the cup. 12 were broken, 5 didn't have any erasers, and the rest were able to be sharpened and used. How many pencils were put back in the cup?

Reteach*Compare and Order Fractions*

You can compare fractions to see which fraction is greater than ($>$), is less than ($<$), or if they are equivalent.

$\frac{1}{8}$ is less than $\frac{3}{8}$

$\frac{1}{8}$

$$\frac{1}{8} < \frac{3}{8}$$

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
---------------	---------------	---------------

$\frac{5}{6}$ is greater than $\frac{1}{2}$

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$
---------------	---------------	---------------	---------------	---------------

$$\frac{5}{6} > \frac{1}{2}$$

$\frac{1}{2}$

You can order fractions from greatest to least.

$\frac{1}{8}$

$\frac{1}{3}$

$\frac{1}{2}$

Compare. Write $>$, $<$, or $=$.

1. $\frac{2}{6} \bigcirc \frac{1}{3}$

2. $\frac{1}{2} \bigcirc \frac{1}{5}$

3. $\frac{4}{8} \bigcirc \frac{7}{8}$

4. $\frac{1}{4} \bigcirc \frac{1}{8}$

Order from *greatest to least*.

5. $\frac{1}{3}, \frac{1}{8}, \frac{1}{6}$ _____

6. $\frac{2}{5}, \frac{4}{8}, \frac{6}{7}$ _____

7. $\frac{1}{2}, \frac{3}{4}, \frac{2}{3}$ _____

8. $\frac{5}{9}, \frac{1}{9}, \frac{7}{9}$ _____

Reteach*Locate Fractions on a Number Line***Locate Points on a Number Line**

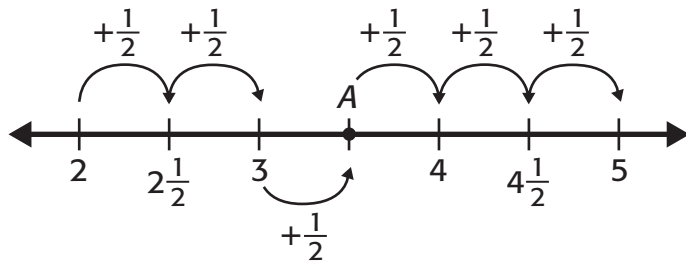
Locate the letter that names $\frac{1}{3}$ on the number line.



Point B represents $\frac{1}{3}$. So, Point B names $\frac{1}{3}$ on the number line.

Name Points on a Number Line

Which number does point A best represent on the number line?



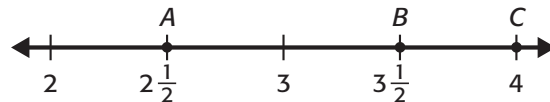
The interval between lines is $\frac{1}{2}$. $3 + \frac{1}{2} = 3\frac{1}{2}$. So, Point A = $3\frac{1}{2}$.

Locate a point on the number line.

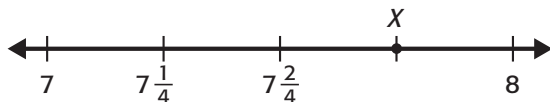
1. $\frac{1}{5} =$ Point _____



2. $2\frac{1}{2} =$ Point _____

**Name a point on the number line.**

3. Point X = _____

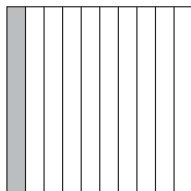


4. Point Y = _____

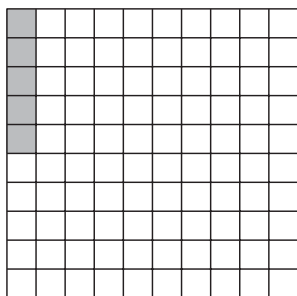


Reteach*Tenths*

You can use a fraction or a decimal to name parts of a whole.



$10¢ = \frac{1}{10}$ of a dollar
 Read: one tenth
 Fraction: $\frac{1}{10}$
 Decimal: 0.1 or \$0.10



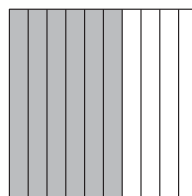
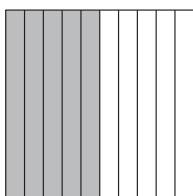
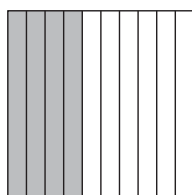
$5¢ = \frac{5}{100}$ of a dollar
 Read: five hundredths
 Fraction: $\frac{5}{100}$
 Decimal: 0.05 or \$0.05

Write a fraction and a decimal for the part that is shaded.

1. _____

2. _____

3. _____



Write each fraction as a decimal.

4. $\frac{7}{10}$ _____

5. three tenths _____

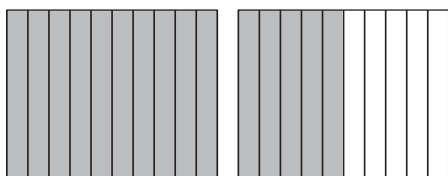
6. $\frac{9}{10}$ _____

Write each decimal as a fraction.

7. 0.5 _____

8. 0.4 _____

9. 0.1 _____

Reteach*Hundredths***This model shows 1 whole and 5 tenths shaded.**

1 whole and 5 tenths

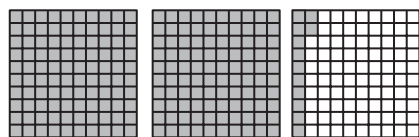
$$1\frac{5}{10} = 1.5$$

You can write $1\frac{5}{10}$ as a decimal, 1.5.

Read: one and five tenths



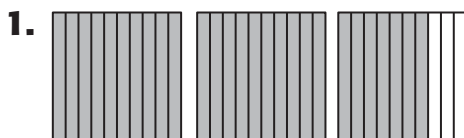
Say "and" in place of the decimal point.

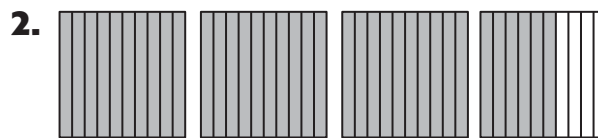
This model shows 2 wholes and 12 hundredths shaded.

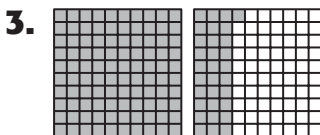
2 wholes and 12 hundredths

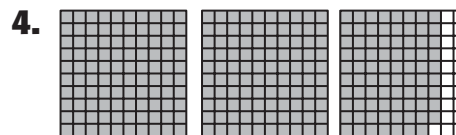
 $2\frac{12}{100}$ Decimal: 2.12

Read: two and twelve hundredths

Write each as a decimal.







5. $6\frac{7}{10} =$ _____

6. $9\frac{3}{10} =$ _____

7. $4\frac{59}{100} =$ _____

8. $7\frac{15}{100} =$ _____

9. $1\frac{8}{100} =$ _____

10. $4\frac{9}{10} =$ _____

11. $8\frac{64}{100} =$ _____

12. $1\frac{1}{100} =$ _____

13. $5\frac{14}{100} =$ _____

Reteach*Problem-Solving Strategy: Work Backward***Work Backward**

Aretha rode on a bus for 2 miles from home to the train station. Then she took a train to the city. She returned home the same way. She traveled 16 miles total. How many miles did she travel on the train each way?

Step 1 Understand	What do you need to find? You need to find how many miles she traveled each way on the train.
Step 2 Plan	Make a plan. Work backward. She traveled 16 miles total. Each bus ride was two miles.
Step 3 Solve	Carry out your plan. Step 1 Find the number of miles each way. $16 \div 2 = 8$ Step 2 She traveled 2 miles on the bus each way. $8 - 2 = 6$ She traveled 6 miles each way on the train.
Step 4 Check	Check your answer. Make sure your answer is reasonable.

Solve. Use the *work backward* strategy.

1. The South Sound Ferry has a snack bar. Drinks cost \$1 and hamburgers cost \$3. Julia has 1 drink and 1 hamburger. Julia and Harry spend \$12 altogether. How many drinks and hamburgers does Harry have?

2. Tickets for the ferry are \$5 for adults and \$2 for children. The Lin family spends \$16 to ride the ferry. How many children do Mr. and Mrs. Lin have?







Reteach*Problem-Solving Strategy (continued)*

3. Marisol and her sister Marta spend \$3 each for two bus tickets to the carnival. Once at the carnival, Marisol buys a popcorn for \$4 and Marta buys a hot dog for \$2. They each get a caramel apple, which cost \$2 each. If they began with \$20.00 to share and need to save at least \$3 to get back home, do they have any money to spend after eating? How much?
-

4. Bethany and Andrey want to go to the library. Andrey lives 10 blocks away from the library. Bethany will be walking from the park, which is 7 blocks away from Andrey's house. If Bethany stops first to pick up Andrey, how many total blocks will she walk to the library? How many more blocks will she walk than Andrey?
-

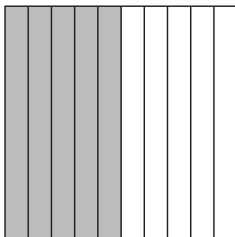
5. Samantha's mother has given her 2 hours to play any of her 4 favorite video games. It will take her 30 minutes to play one game and 45 minutes to play another. The third game takes 20 minutes to play and the fourth games takes one hour and 20 minutes. List three different combinations of games Samantha can play completely in the amount of time her mother has given her?
-
-
-

Reteach*Decimals and Money*

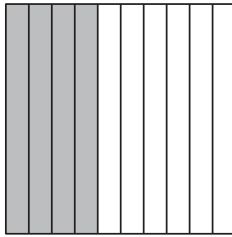
KEY	CONCEPT	Fractions, Decimals, and Money
Money	Words	Numbers
	<i>one cent</i> or one hundredth of a dollar	1¢ or \$0.01 $\frac{1}{100}$
	<i>five cents</i> or five hundredths of a dollar	5¢ or \$0.05 $\frac{5}{100}$
	<i>ten cents</i> or ten hundredths of a dollar	10¢ or \$0.10 $\frac{10}{100}$
	<i>twenty-five cents</i> or twenty-five hundredths of a dollar	25¢ or \$0.25 $\frac{25}{100}$
	<i>fifty cents</i> or fifty hundredths of a dollar	50¢ or \$0.50 $\frac{50}{100}$
	<i>one hundred cents</i> one hundred hundredths of a dollar	100¢ or \$1.00 $\frac{100}{100}$

Write a fraction and a decimal for each shaded part.

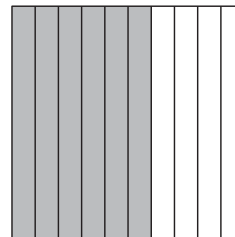
1. _____



2. _____



3. _____



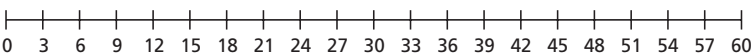
4. Sadie went to the pet store to buy fish food. She spent 4 dimes and 10 pennies. What fraction of a dollar did Sadie spend?

Reteach*Problem-Solving Investigation: Choose a Strategy***Choose the Best Strategy**

Justina is planting a row of shrubs in her backyard. She places shrubs 3 feet apart over a distance of 20 yards. She places the first shrub 3 feet from the edge of the yard. How many shrubs does Justina plant?

<p>Step 1 Understand</p>	<p>Be sure you understand the problem. Read carefully.</p> <p>What facts do you know?</p> <ul style="list-style-type: none"> • The shrubs are spread over a distance of _____ yards. • Justina begins 3 feet from the edge of the yard and places shrubs _____ feet apart. <p>What do you need to find?</p> <ul style="list-style-type: none"> • You need to find the number of feet in _____ yards. • You need to find how many _____.
<p>Step 2 Plan</p> <ul style="list-style-type: none"> • Logical reasoning • Draw a picture or diagram • Act it out • Make a table or list • Work backward 	<p>Make a plan. Choose a strategy.</p> <p>To find the answer, you can draw a diagram. Find the number of feet in 20 yards. Show a distance that is that many feet long. Count by 3s to see how many shrubs Justina uses if they are placed 3 feet apart.</p> <p>To find the answer, you can also write an equation. All the shrubs are the same distance apart. Use division to find how many shrubs Justina uses.</p>

Reteach*Problem-Solving Investigation (continued)*

Step 3 Solve	Carry out your plan. How many feet are in 20 yards? $1 \text{ yard} = 3 \text{ feet}$ $20 \times 3 = 60$ Draw a diagram. Show a 60-foot distance. Count by 3s, adding tick marks as shown.  Count the tick marks from 3 to 60. Justina uses _____ shrubs.
Step 4 Check	Is the solution reasonable? Reread the problem. Does your answer make sense? Yes No Which method do you prefer? Explain. _____ _____

Use any strategy shown below to solve.

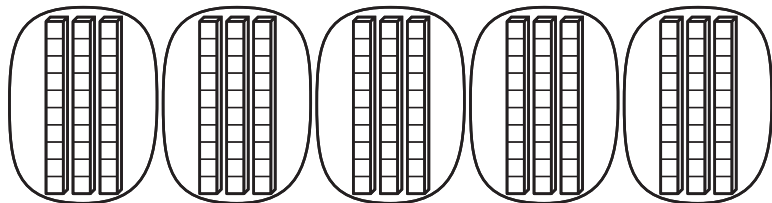
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning
- Work backward

- 1.** There are 900 seconds in 15 minutes. How many seconds are in one hour?
- _____

- 2.** Adelaide's parents are having a dinner party. There are 112 guests invited. Should 5, 6, or 8 guests sit at each table so that each table has the same number of guests?
- _____

Reteach*Multiply Multiples of 10, 100, and 1,000***Using models can help you multiply a multiple of 10 by a number.**Find 5×30 .

Make 5 groups with 30 in each group.

 $3 \text{ tens} + 3 \text{ tens} + 3 \text{ tens} + 3 \text{ tens} + 3 \text{ tens} = 15 \text{ tens} = 150$ So, $5 \times 30 = 150$.

Use basic facts. Look for a pattern.

$3 \times 3 = 3 \times 3 \text{ ones} = 9 \text{ ones} = 9$

$3 \times 30 = 3 \times 3 \text{ tens} = 9 \text{ tens} = 90$

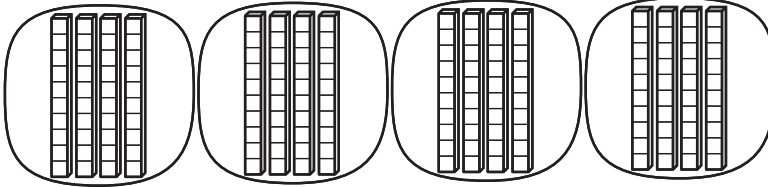
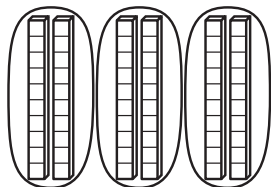
$3 \times 300 = 3 \times 3 \text{ hundreds} = 9 \text{ hundreds} = 900$

$3 \times 3,000 = 3 \times 3 \text{ thousands} = 9 \text{ thousands} = 9,000$

So, $3 \times 3,000 = 9,000$.

Multiply. You may use models.

1. $3 \times 20 = \underline{\hspace{2cm}} \text{ tens} = \underline{\hspace{2cm}}$ 2. $4 \times 40 = \underline{\hspace{2cm}} \text{ tens} = \underline{\hspace{2cm}}$



3. $7 \times 20 = \underline{\hspace{2cm}} \text{ tens} = \underline{\hspace{2cm}}$ 4. $4 \times 20 = \underline{\hspace{2cm}} \text{ tens} = \underline{\hspace{2cm}}$

5. $2 \times 30 = \underline{\hspace{2cm}}$ 6. $3 \times 30 = \underline{\hspace{2cm}}$

7. $8 \times 20 = \underline{\hspace{2cm}}$ 8. $5 \times 60 = \underline{\hspace{2cm}}$ 9. $4 \times 700 = \underline{\hspace{2cm}}$

10. $5 \times 600 = \underline{\hspace{2cm}}$ 11. $2 \times 9,000 = \underline{\hspace{2cm}}$ 12. $6 \times 8,000 = \underline{\hspace{2cm}}$

Reteach*Problem-Solving Strategy: Logical Reasoning*

Coach Betty wants 11 liters of water in a cooler. She has a 5-liter bottle and an 8-liter bottle. How can she use them to measure exactly 11 liters?

Step 1 Understand	Be sure you understand the problem. Read carefully. What do you know? • Coach Betty wants _____ liters of water in a cooler. • Coach Betty has bottles that hold _____ liters and _____ liters. What do you need to know? • You need to find how to use the bottles to measure _____ .
Step 2 Plan	Make a plan. Choose a strategy. Use logical reasoning to solve the problem. You can use the difference of the amount of water in the bottles to measure exactly 11 liters.

Reteach*Problem-Solving Strategy (continued)*

Step 3 Solve	Carry out your plan. Follow the steps. Steps <ul style="list-style-type: none"> • Fill the 8-L bottle. • Fill the 5-L bottle from the 8-L bottle. • Pour what is left in the 8-L bottle into the cooler. • Refill the 8-L bottle. • Pour the water from the 8-L bottle into the cooler. • Add. $8 + 3 = \underline{\hspace{2cm}}$. There are $\underline{\hspace{2cm}}$ liters in the water cooler.
Step 4 Check	Is the solution reasonable? Reread the problem. How can you check your answers? <hr/>

Solve. Use logical reasoning.

1. Ed has a 6-oz cup and an 8-oz cup. How can he use the cups to measure 10 ounces of water?

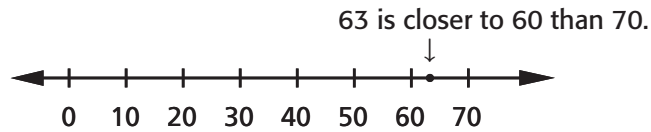
2. Cathy, Ted, and Ella eat lunch. One has a ham sandwich, one has a tuna sandwich, and one has a cheese sandwich. Ted and Cathy do not eat meat. Cathy does not eat fish. What does Ella eat?

Reteach*Estimate Products*

To estimate a product, round the greater factor to a simpler number.

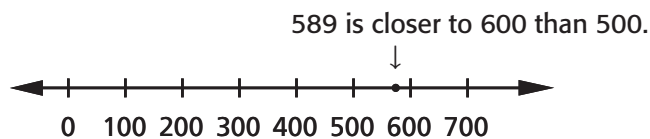
Estimate: 4×63

$$4 \times 60 = 240$$



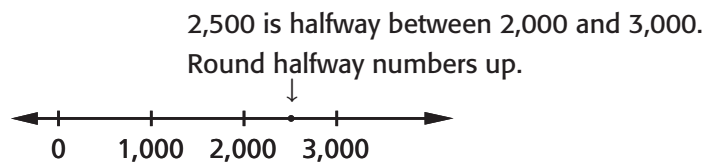
Estimate: 3×589

$$3 \times 600 = 1,800$$



Estimate: $8 \times 2,500$

$$8 \times 3,000 = 24,000$$



Estimate. Show your work.

1. 5×33 _____

2. 7×48 _____

3. 2×175 _____

4. 6×837 _____

5. $3 \times 1,624$ _____

Estimate each product.

6. 2×29 _____

7. 3×88 _____

8. 4×41 _____

9. 4×532 _____

10. 8×816 _____

11. 7×365 _____

12. $6 \times 4,593$ _____

13. $8 \times 2,294$ _____

14. $4 \times 1,090$ _____

15. $9 \times 2,756$ _____

16. $5 \times 9,320$ _____

17. $9 \times 2,134$ _____

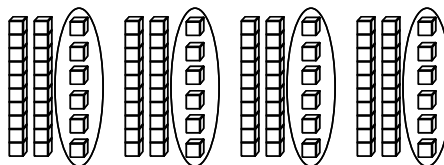
Reteach*Multiply by a One-Digit Number***You can multiply using models or pencil and paper.**

Find 4×26 .
Show 4 groups of 26.

You can record
this way:

Step 1

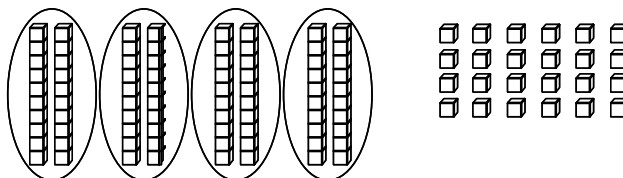
Multiply the ones.
 $4 \times 6 \text{ ones} = 24 \text{ ones}$



$$\begin{array}{r} 26 \\ \times 4 \\ \hline 24 \end{array}$$

Step 2

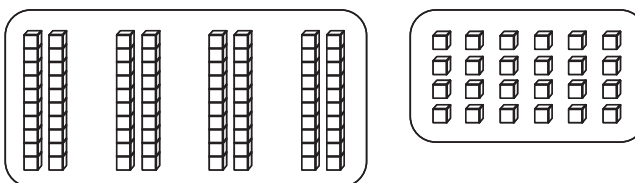
Multiply the tens.
 $4 \times 2 \text{ tens} = 8 \text{ tens}$



$$\begin{array}{r} 26 \\ \times 4 \\ \hline 24 \\ + 80 \\ \hline \end{array}$$

Step 3

Add.



$$\begin{array}{r} 26 \\ \times 4 \\ \hline 24 \\ + 80 \\ \hline 104 \end{array}$$

Complete to find the product. You may use models to help you.

1. $\begin{array}{r} 23 \\ \times 5 \\ \hline \end{array}$

2. $\begin{array}{r} 44 \\ \times 3 \\ \hline \end{array}$

3. $\begin{array}{r} 31 \\ \times 8 \\ \hline \end{array}$

4. $\begin{array}{r} 52 \\ \times 7 \\ \hline \end{array}$

5. $\begin{array}{r} 45 \\ \times 9 \\ \hline \end{array}$

6. $\begin{array}{r} 45 \\ \times 5 \\ \hline \end{array}$

7. $\begin{array}{r} 64 \\ \times 6 \\ \hline \end{array}$

8. $\begin{array}{r} 78 \\ \times 3 \\ \hline \end{array}$

9. $\begin{array}{r} 86 \\ \times 4 \\ \hline \end{array}$

10. $\begin{array}{r} 92 \\ \times 5 \\ \hline \end{array}$

11. $9 \times 52 = \underline{\hspace{2cm}}$

12. $72 \times 7 = \underline{\hspace{2cm}}$

13. $68 \times 3 = \underline{\hspace{2cm}}$

14. $5 \times 83 = \underline{\hspace{2cm}}$

15. $2 \times 88 = \underline{\hspace{2cm}}$

16. $48 \times 6 = \underline{\hspace{2cm}}$

Reteach*Problem-Solving Investigation: Choose a Strategy*

If Dave cuts a 144-inch-long piece of wood into 8-inch pieces, how many pieces will he have?

<p>Step 1 Understand</p>	<p>Be sure you understand the problem.</p> <p>What do you know?</p> <ul style="list-style-type: none"> • A piece of wood is _____ inches long. • The wood will be cut into _____ -inch pieces. <p>What do you need to find?</p> <ul style="list-style-type: none"> • You need to find how many _____ <p>_____</p> <p>_____</p>
<p>Step 2 Plan</p> <ul style="list-style-type: none"> • Logical reasoning • Draw a picture • Act it out • Make an organized list • Solve a simpler Problem 	<p>Make a plan. Choose a strategy.</p> <p>You may draw a picture or diagram. Show a piece of wood that is 144 inches long. Count by 8s to see how many 8-inch pieces will fit.</p> <p>You can also write a number sentence (an equation). Each piece of wood is the same length. Use division to find how many 8-inch pieces of wood will fit.</p>

Reteach*Problem-Solving Investigation (continued)*

<p>Step 3 Solve</p>	<p>Carry out your plan.</p> <p>Plan 1 Draw a diagram. Count up groups of 8.</p> <div style="text-align: center;"> </div> <p>Count. There are _____ pieces of wood in all.</p> <p>Plan 2 Write a division sentence.</p> <p>_____ ÷ _____ = _____</p> <p>He will have _____ pieces of wood.</p>
<p>Step 4 Check</p>	<p>Is the solution reasonable?</p> <p>Reread the problem.</p> <p>How can you check your answer?</p> <p>_____</p> <p>_____</p>

Solve.

1. Jim has 5 packs of cards. There are 15 cards in each pack. He gives all of the cards to 3 boys. Each boy gets the same number of cards. How many cards does each boy receive?

2. Winnie has a piece of fabric that is 60 inches long. She cuts it into 6 equal pieces. How many inches long is each piece?

Reteach*Multiply Two-Digit Numbers*Find 4×16 .**Step 1**

Multiply the ones.
Regroup if necessary.

$$\begin{array}{r} \overset{2}{16} \leftarrow 2 \text{ tens} \\ \times 4 \\ \hline 4 \leftarrow 4 \text{ ones} \end{array}$$

Think: $4 \times 16 = 24$ ones
 24 ones = 2 tens 4 ones
 So, $4 \times 16 = 64$.

Step 2

Multiply the tens.
Add all the tens.

$$\begin{array}{r} \overset{2}{16} \\ \times 4 \\ \hline 64 \end{array}$$

Think: 4×1 ten = 4 tens
 4 tens + 2 tens = 6 tens

Multiply. Remember to regroup if necessary.

1. $\begin{array}{r} \square \\ 15 \\ \times 3 \\ \hline \end{array}$

2. $\begin{array}{r} \square \\ 38 \\ \times 3 \\ \hline \end{array}$

3. $\begin{array}{r} \square \\ 59 \\ \times 7 \\ \hline \end{array}$

4. $\begin{array}{r} \square \\ 68 \\ \times 2 \\ \hline \end{array}$

5. $\begin{array}{r} \square \\ 74 \\ \times 8 \\ \hline \end{array}$

6. $\begin{array}{r} \square \\ 28 \\ \times 5 \\ \hline \end{array}$

7. $\begin{array}{r} \square \\ 82 \\ \times 6 \\ \hline \end{array}$

8. $\begin{array}{r} \square \\ 45 \\ \times 4 \\ \hline \end{array}$

9. $\begin{array}{r} \square \\ 49 \\ \times 2 \\ \hline \end{array}$

10. $\begin{array}{r} \square \\ 53 \\ \times 8 \\ \hline \end{array}$

11. $\begin{array}{r} \square \\ 45 \\ \times 6 \\ \hline \end{array}$

12. $\begin{array}{r} \square \\ 58 \\ \times 5 \\ \hline \end{array}$

13. $\begin{array}{r} \square \\ 38 \\ \times 7 \\ \hline \end{array}$

14. $\begin{array}{r} \square \\ 95 \\ \times 4 \\ \hline \end{array}$

15. $\begin{array}{r} \square \\ 34 \\ \times 8 \\ \hline \end{array}$

16. $2 \times 39 = \underline{\hspace{2cm}}$

17. $45 \times 7 = \underline{\hspace{2cm}}$

18. $6 \times 77 = \underline{\hspace{2cm}}$

Reteach*Multiply Greater Numbers*

Use what you know about multiplying 2-digit numbers to multiply 3- and 4-digit numbers.

Find $2 \times 2,739$.

Step 1	Step 2	Step 3	Step 4
Multiply the ones. Regroup if necessary.	Multiply the tens. Regroup if necessary.	Multiply the hundreds. Regroup if necessary.	Multiply the thousands. Regroup if necessary.
$\begin{array}{r} 1 \\ 2,739 \\ \times 2 \\ \hline 8 \end{array}$	$\begin{array}{r} 1 \\ 2,739 \\ \times 2 \\ \hline 78 \end{array}$	$\begin{array}{r} 1 \quad 1 \\ 2,739 \\ \times 2 \\ \hline 478 \end{array}$	$\begin{array}{r} 1 \quad 1 \\ 2,739 \\ \times 2 \\ \hline 5,478 \end{array}$
$2 \times 9 \text{ ones} =$ 18 ones $18 \text{ ones} =$ $1 \text{ ten } 8 \text{ ones}$	$2 \times 3 \text{ tens} = 6 \text{ tens}$ $6 \text{ tens} + 1 \text{ ten} =$ 7 tens	$2 \times 7 \text{ hundreds} =$ $14 \text{ hundreds} =$ 1 thousand 4 hundreds	$2 \times 2 \text{ thousands} =$ 4 thousands $4 \text{ thousands} +$ $1 \text{ thousand} =$ 5 thousands

Multiply.

$$\begin{array}{r} \square \square \\ 1. \quad 252 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} \square \square \\ 2. \quad 164 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} \square \square \\ 3. \quad 736 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} \square \square \\ 4. \quad 205 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} \square \square \square \\ 5. \quad 1,246 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} \square \square \square \\ 6. \quad 5,718 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} \square \square \square \\ 7. \quad 3,962 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} \square \square \square \\ 8. \quad 2498 \\ \times 5 \\ \hline \end{array}$$